



## Econometrie en Operationele Research (BSc)

Vrije Universiteit Amsterdam - Fac. der Economische Wet. en Bedrijfsk. - B Econometrie en Operationele Research - 2016-2017

De Bacheloropleiding Econometrie en Operationele Research heeft tot doel om breed georiënteerde econometristen op te leiden die met succes kunnen instromen in kwantitatieve vervolgoopleidingen of kunnen toetreden tot de arbeidsmarkt. Doel van de opleiding is het analytisch denken van de studenten aan te scherpen door het combineren van wiskundige theorievorming met aspecten als abstractie en generalisatie, met aandacht voor modelleren en toetsen van economische problemen en theorieën in wiskundige en statistische termen. Met name in de eerste twee jaar is de opleiding breed en wordt de student vertrouwd gemaakt met theorieën en methoden uit de wiskunde en statistiek, de toegepaste informatica en de economie.

De studie Econometrie en Operationele Research is opgezet volgens het Bachelor-Masterstelsel. Dit stelsel is ingevoerd om de universitaire opleidingen in Europa beter op elkaar af te stemmen en onderling vergelijkbaar te maken. Dit houdt in dat er een driejarige Bacheloropleiding Econometrie en Operationele Research wordt aangeboden, gevolgd door een éénjarige Masteropleiding. Je krijgt in de Bachelor een gedegen theoretische opleiding, maar tegelijkertijd wordt er aandacht besteed aan het toepassen van deze theorie op concrete problemen.

### **Programma**

De Bacheloropleiding Econometrie en Operationele Research is een driejarige opleiding. Elk jaar telt 60 studiepunten, een studiepunten staat voor 28 uur studeren.

- [Opleidingsschema 2016-2017 bachelor Econometrie en Operationele Research](#)
- [FEWEB jaarindeling studiejaar 2016-2017](#)
- [Onderwijs- en Examenreglement 2016-2017 Bacheloropleidingen FEWEB](#)
- [Regels en Richtlijnen 2016-2017 FEWEB](#)
- [Overgangsregeling BSc Econometrie en Operationele Research 2e jaar 2016-2017](#)
- [Overgangsregeling BSc Econometrie en Operationele Research 3e jaar 2016-2017](#)

## Inhoudsopgave

Eerste jaar Econometrie en operationele research	1
Tweede jaar Econometrie en operationele research	1
Derde jaar Econometrie en operationele research	2
Derde jaar Econometrie en Operationele Research - Ect/OR/ME III	3
Derde jaar Econometrie en Operationele Research - Keuzevakken	3
Derde jaar Bachelor Econometrie en Operationele Research – Minor	6
Faculteitsminoren FEWEB	6
Minor Entrepreneurship	6
Minor Understanding and Influencing Decisions in Business and Society	7
Minor Accounting, Organizations and Society	8
Minor Health Care Management	9
Minor Applied Econometrics: A Big Data Experience for All	10
Minor Operations Analytics	12
Minor E-Business and Online Commerce	14
Minor Sustainability and Innovation	15
Universiteitsminoren	16
Minor Brain and Mind	17
Minor Sport, Movement and Health	17
Minor Business Administration	18
Minor Managing Digital Innovation	19
Minor Economics	19
Minor God in Nederland	20
Minor Islam	21
Minor Aan de slag met Literatuur	21
Minor Psychologie en het Brein	22
Minor Transnational Law and Society	23
Minor Development Studies	24
Minor Frontiers of Multicultural Societies	24
Minor Netwerken in de informatiemaatschappij	24
Minor Organizational Culture	25
Minor Political Science	25
Minor Filosofie	25
Derde jaar Econometrie en Operationele Research – These	26
Overgangsregeling voor curriculumwijzigingen	26
Honours programme	26
FEWEB Honours Courses	28
Interdepartmental Honours Courses	29
Bachelor Econometrie en Operationele Research - Algemene Informatie	29
Missie, kernaspecten en eindtermen	29
Intekenen vakken en tentamens	30
Werkvormen	30
Toetsing	30
Verder studeren	31

Extra cursussen voor toelating tot een van de Masteropleidingen van FEWEB	34
Vak: Academic Skills: Probability and Inference (Periode 6)	35
Vak: Accounting and IT Systems I (Periode 1)	35
Vak: Accounting and IT Systems II (Periode 2)	36
Vak: Accounting Information Systems (Periode 4)	38
Vak: Advanced Practical (Periode 6)	39
Vak: Advanced Programming (Periode 1)	40
Vak: Algebraïsche topologie (Periode 4+5)	41
Vak: Algorithm Engineering (Periode 2)	42
Vak: Analyselab (Periode 3)	43
Vak: Analysis I (Periode 1+2)	44
Vak: Analysis II (Periode 4+5)	45
Vak: Applications in Economic Policy: Policy Analysis, Formulation and Evaluation (Periode 3)	46
Vak: Applied Analysis: Financial Mathematics (Periode 1+2)	47
Vak: Auditing (Periode 5)	48
Vak: Automata and Complexity (Periode 4)	50
Vak: Bayesiaanse Statistiek (Periode 4+5)	51
Vak: Bedrijfsmodellering en requirements engineering (Periode 1)	52
Vak: Behavioral Game Theory (Periode 2)	53
Vak: Behaviour Genetics (UM) (Periode 2)	54
Vak: Biologische Psychologie (UM) (Periode 2)	55
Vak: Biomedische wiskunde (Periode 4+5)	56
Vak: Brain in Trouble (Periode 2)	57
Vak: Bubbles and Crashes (Periode 5)	59
Vak: Business Anthropology (Periode 1)	60
Vak: Business Cycles and Stabilization Policy (Periode 2)	61
Vak: Business Game (Periode 3)	62
Vak: Business Intelligence and Analytics (Periode 4)	63
Vak: Business Intelligence and Analytics (Periode 2)	65
Vak: Business Model Assessment (Periode 2)	67
Vak: Business Model Innovation (Periode 1)	69
Vak: Business Professionals (Periode 2)	70
Vak: Business Project (Periode 3)	71
Vak: Capita Selecta Political Science (Periode 3)	72
Vak: Case Lab (Periode 2)	73
Vak: Case Study: A Modelling Competition (Periode 3)	74
Vak: Cognitive Neuroscience (Periode 1)	75
Vak: Cognitive Neuroscience (UM) (Periode 1)	76
Vak: Collective Intelligence (Periode 2)	76
Vak: Colloquium I (Periode 1+2)	77
Vak: Colloquium II (Periode 4+5)	78
Vak: Comparative Political Research (Periode 2)	79
Vak: Complexe Analyse (Periode 4+5)	80
Vak: Complexe dynamische systemen (Periode 1+2)	81
Vak: Computational Econometrics (Periode 1)	81

Vak: Computational Finance (Periode 5)	82
Vak: Concurrency & Multithreading (Periode 2)	82
Vak: Consumer Behavior (Periode 4)	84
Vak: Consumer Science for Online Commerce (Periode 1)	85
Vak: Contemporary Perspectives on HRM Theory (Periode 5)	87
Vak: Contemporary Perspectives on OB: Leading Change (Periode 4)	88
Vak: Corporate Governance and Accountability (Periode 2)	90
Vak: Creative Writing (Periode 2)	91
Vak: Culture and Citizenship (Periode 2)	93
Vak: Current Issues in Transnational Law (Periode 3)	94
Vak: Data Analytics (Periode 2)	96
Vak: Data Structures and Algorithms (Periode 1)	97
Vak: De bijbel als Volksboek (Periode 3)	99
Vak: De netwerksamenleving (Periode 1)	100
Vak: De virtuele organisatie (Periode 2)	101
Vak: Debates in Consulting Research (Periode 5)	102
Vak: Democratie 2.0 (Periode 2)	103
Vak: Designing Interventions in Business and Society (Periode 3)	105
Vak: Development and Globalization (Periode 1)	106
Vak: Development from an Interdisciplinary Viewpoint (Periode 3)	107
Vak: Development of Macroeconomic Thought (Periode 1)	108
Vak: Differentiaalmeetkunde (Periode 1+2)	109
Vak: Digital Marketing and Metrics (Periode 5)	109
Vak: E-Commerce Supply Chain Management (Periode 2)	111
Vak: Econometrics I (Periode 1+2)	112
Vak: Econometrics II (Periode 4+5)	113
Vak: Econometrics III (Periode 4)	114
Vak: Economic Assessment of Health Care (Periode 1)	115
Vak: Economics of the Dutch Health Care System (Periode 2)	116
Vak: Emerging Technologies for E-Business and Online Commerce (Periode 3)	117
Vak: Empirical Econometric Modelling (Periode 5)	119
Vak: Empirical Economics (Periode 2)	120
Vak: Empirical Finance (Periode 2)	121
Vak: Empirical Marketing (Periode 2)	122
Vak: Enterprising Behavior (Periode 2)	123
Vak: Environment and Development (Periode 1)	124
Vak: Equational Programming (Periode 3)	125
Vak: Ethics (Periode 4+5)	126
Vak: Ethics of Algorithms (Periode 3)	127
Vak: Ethiek I (Periode 2)	129
Vak: Filming Entrepreneurship (Periode 2)	130
Vak: Finance I (Periode 5)	131
Vak: Financial Accounting (Periode 4)	132
Vak: Financial Management in Health Care Organizations (Periode 2)	134
Vak: Financial Markets and Institutions (Periode 4)	135

Vak: Financial Modelling and Derivatives (Periode 4)	137
Vak: Forensic Statistics (Periode 4+5)	138
Vak: Foundations and Forms of Entrepreneurship (Periode 1)	139
Vak: Foundations of Business Administration (Periode 1)	141
Vak: Foundations of Microeconomics (Periode 1)	142
Vak: Foundations of Strategic Management (Periode 4)	143
Vak: Functionaalanalyse (Periode 4+5)	145
Vak: Galoistheorie (Periode 4+5)	145
Vak: Geschiedenis van de Islam tot 1800 (Periode 2)	146
Vak: Getaltheorie (Periode 1+2)	147
Vak: Global Political Economy (Periode 2)	148
Vak: Global Religion and Local Diversity (Periode 2)	149
Vak: Grand Challenges for Sustainability (Periode 1)	150
Vak: Health Care Management (Periode 3)	152
Vak: Health Economics (Periode 1)	153
Vak: Heuristic Optimization Methods (Periode 1)	154
Vak: Heuristics (Periode 3)	156
Vak: Human Capital Across the Life Cycle (Periode 5)	157
Vak: Human Rights and Migration: Citizenship (Periode 2)	158
Vak: Human Rights and Migration: Current Issues (Periode 3)	159
Vak: Human Rights and Migration: The Border (Periode 1)	160
Vak: Identity and Diversity in Organizations (Periode 2)	161
Vak: Inclusive Growth and Sustainability (Periode 5)	163
Vak: Industrial Organization (Periode 4)	164
Vak: Information Retrieval (Periode 2)	165
Vak: Information Systems in E-Business and Online Commerce (Periode 2)	166
Vak: Inleiding editiewetenschap 1 (Periode 1)	167
Vak: Inleiding editiewetenschap 2 (Periode 2)	169
Vak: Inleiding in de Koran en Soenna (Periode 1)	170
Vak: Inleiding Inspanningsfysiologie (Periode 1)	172
Vak: Inleiding Nederlandse religiegeschiedenis (Periode 1)	173
Vak: Inleiding Psychologie (UM) (Periode 1)	174
Vak: Integratief modelleren (Periode 1)	175
Vak: Integrative Practical (Periode 3)	176
Vak: Intensionele Logica's en Onzekerheid (Periode 1)	177
Vak: Intercultural Communication (Periode 1)	177
Vak: International Financial Management (Periode 5)	178
Vak: International Relations and Global Governance (Periode 1)	179
Vak: Internationale protestantse relaties (Periode 1)	181
Vak: Internet Governance (Periode 1)	181
Vak: Internship Minor Applied Econometrics: A Big Data Experience for All (Periode 2+3)	183
Vak: Internship Minor E-business and Online Commerce (Periode 2+3)	185
Vak: Internship Minor Entrepreneurship (Periode 2+3)	187
Vak: Internship Minor Operations Analytics (Periode 2+3)	189
Vak: Internship Minor Sustainability and Innovation (Periode 2+3)	191

Vak: Internship Minor Understanding and Influencing Decisions in Business and Society (Periode 2+3)	193
Vak: Introduction to Digital Innovation (Periode 1)	195
Vak: Introduction to E-Business and Online Commerce (Periode 1)	196
Vak: Introduction to Econometrics (Periode 1)	197
Vak: Introduction to Econometrics, Operations Research and Mathematical Economics (Periode 3)	198
Vak: Introduction to Programming (Java) (Periode 1+2)	199
Vak: Introduction to Time Series (Periode 1)	200
Vak: Investments (Periode 5)	201
Vak: Islam en Europese cultuur (Periode 1)	202
Vak: Islamitische ethiek (Periode 3)	204
Vak: Islamitische theologie/Kalam (Periode 2)	205
Vak: Joodse religieuze culturen (Periode 2)	206
Vak: Judgment and Decision Making (Periode 1)	207
Vak: Kansrekening: Markov-ketens (Periode 1+2)	209
Vak: Knowledge Management (Periode 5)	209
Vak: Kopstukken I (Periode 1)	211
Vak: Kopstukken II (Periode 2+3)	212
Vak: Leadership: Mobilizing People (Periode 1)	213
Vak: Lineaire Algebra 1 (Periode 1+2)	214
Vak: Logic and Modelling (Periode 5)	215
Vak: Machine Learning (Periode 4)	216
Vak: Macroeconomics I (Periode 4)	217
Vak: Macroeconomics II (Periode 1)	219
Vak: Management Accounting (Periode 5)	220
Vak: Managing and Improving Quality (Periode 5)	222
Vak: Managing Negotiations: Getting to Yes (Periode 2)	223
Vak: Marketing Sustainable Innovations (Periode 3)	224
Vak: Mathematical Economics I (Periode 1+2)	226
Vak: Mathematical Economics II (Periode 4+5)	228
Vak: Mathematical Economics III (Periode 4)	229
Vak: Measure Theory (Periode 1+2)	231
Vak: Meesterwerken uit de wereldliteratuur (Periode 1+2)	231
Vak: Microeconomics II (Periode 4)	232
Vak: Mind and Machine (Periode 3)	235
Vak: Nature versus Nurture (Periode 1)	236
Vak: Neuro- en Revalidatiepsychologie (Periode 3)	238
Vak: New Venture Creation (Periode 3)	239
Vak: New Ways of Working (Periode 2)	241
Vak: Nieuwe religiositeit: Nederlands protestantisme na de Tweede Wereldoorlog (Periode 2)	242
Vak: Nudge: Influencing Behavior (Periode 2)	243
Vak: Numerical Methods (Periode 1+2)	244
Vak: Operations Analysis (Periode 1)	245
Vak: Operations Research I (Periode 1+2)	246



Vak: Operations Research II (Periode 4+5)	247
Vak: Operations Research III (Periode 4)	248
Vak: Organization Politics (Periode 2)	249
Vak: Organizational Behavior and Decision Making (Periode 1)	250
Vak: Organizational Discourse and Narrative Analysis (Periode 3)	251
Vak: Organizing Sustainable Innovation (Periode 2)	252
Vak: Partiële Differentiaalvergelijkingen (Periode 4+5)	254
Vak: Philosophy of Mind (Periode 1)	255
Vak: Principles of Bioinformatics (Periode 1)	256
Vak: Probability Theory (Periode 1+2)	258
Vak: Procurement and Supply Management (Periode 4)	259
Vak: Psychophysio and Cogn. Applications (UM) (Periode 3)	261
Vak: Radicalization and Conflict (Periode 1)	262
Vak: Representatietheorie (Periode 1+2)	263
Vak: Research Assistantship Honours Course (Ac. Jaar (september))	263
Vak: Revalidatie (Periode 1)	265
Vak: Schrijvershuisbezoeken (Periode 2)	267
Vak: Secure programming (Periode 1)	268
Vak: Semantic Web (Periode 1)	269
Vak: Sensomotorische Coördinatie (Periode 2)	270
Vak: Service Science (Periode 2)	272
Vak: Shared Value Creation (Periode 1)	273
Vak: Small Business Development (Periode 5)	275
Vak: Social Media (Periode 1)	276
Vak: Sociology of Globalization and Multiculturalism (Periode 1)	277
Vak: Sportpsychologie (Periode 1)	278
Vak: State, Power and Conflict (Periode 1)	280
Vak: Statistical Data Analysis (Periode 4+5)	281
Vak: Statistics (Periode 4+5)	282
Vak: Strategic management from a practice perspective: A day in the life of a CEO (Periode 5)	283
Vak: Strategic Management of Technology and Innovation (Periode 1)	284
Vak: Structural Policy (Periode 2)	285
Vak: Sustainable Supply Chain Management (Periode 2)	287
Vak: Systems Programming (Periode 1)	288
Vak: Taaltoets (Periode 1)	289
Vak: Talent en Talentontwikkeling (Periode 3)	290
Vak: Tax and Organizations (Periode 3)	291
Vak: The Developing Brain (Periode 2)	292
Vak: Thesis (Ac. Jaar (september))	293
Vak: Toegepaste Inspanningsfysiologie (Periode 2)	295
Vak: Transnational Law in Theory and Practice (Periode 2)	296
Vak: Urban Struggle (Periode 3)	299
Vak: Wetenschapsfilosofie (Periode 2+3)	300
Vak: Wijsgerige vorming 2: Wetenschapsfilosofie (Periode 4)	302
Vak: Workshop Mathematical Modelling (Periode 3)	303



## Eerste jaar Econometrie en operationele research

Het eerste studiejaar bestaat uit verplichte vakken (totaal 60 EC).  
Daarnaast is een Taaltoets verplicht.

Tijdens het eerste jaar staat een mentor tot je beschikking, die je kan helpen de weg te vinden binnen de universiteit, en die je zo nodig ook in contact kan brengen met ouderejaars, studie-adviseurs of andere begeleiders om je te helpen met het verwerven van studievaardigheden. Ook wordt parallel aan perioden 1, 2, 4 en 5 een Colloquim gehouden, waarin aandacht wordt besteed aan praktische zaken rondom de studie.

- Het eindcijfer voor het vak Introduction to Econometrics, Operations Research and Mathematical Economics wordt pas toegekend als aan de voorwaarden van het vak Colloquium I en de Taaltoets is voldaan.
- Het eindcijfer voor het vak Academic Skills: Probability and Inference wordt pas toegekend als aan de voorwaarden van het vak Colloquium II is voldaan.

In het eerste jaar geldt een bindend studieadvies (BSA). Dit betekent dat je aan het eind van het jaar ten minste 42 studiepunten moet hebben behaald om verder te mogen in je opleiding. Kijk op VUnet voor meer informatie.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Academic Skills: Probability and Inference</a>	Periode 6	6.0	E_EOR1_ACSK
<a href="#">Analysis I</a>	Periode 1+2	6.0	X_400641
<a href="#">Analysis II</a>	Periode 4+5	6.0	X_400642
<a href="#">Colloquium I</a>	Periode 1+2	0.0	E_EOR1_COL1
<a href="#">Colloquium II</a>	Periode 4+5	0.0	E_EOR1_COL2
<a href="#">Finance I</a>	Periode 5	6.0	E_EBE1_FIN1
<a href="#">Introduction to Econometrics, Operations Research and Mathematical Economics</a>	Periode 3	6.0	E_EOR1_IEOMF
<a href="#">Introduction to Programming (Java)</a>	Periode 1+2	6.0	X_400634
<a href="#">Lineaire Algebra 1</a>	Periode 1+2	6.0	X_400638
<a href="#">Macroeconomics I</a>	Periode 4	6.0	E_EBE1_MACEC
<a href="#">Probability Theory</a>	Periode 1+2	6.0	E_EOR1_PT
<a href="#">Statistics</a>	Periode 4+5	6.0	E_EOR1_STAT
<a href="#">Taaltoets</a>	Periode 1	0.0	E_BACH_TAALT

## Tweede jaar Econometrie en operationele research

In het tweede studiejaar zijn (bijna) alle vakken verplicht.

In plaats van één van de vakken Econometrics II, Mathematical Economics II en Operations Research II, mag een ander vak gevold worden. Hiervoor

is wel vooraf toestemming nodig van de Opleidingsdirecteur.

Let op:

- Om een BSc scriptie traject in jaar 3 te mogen starten en een begeleider toegekend te krijgen dien je minimaal 120 ects behaald te hebben, inclusief deel II van de cursus in periode 4+5 (Econometrics II, Mathematical Economics II, of Operations Research II). Hier worden geen uitzonderingen op gemaakt. Zonder een afgeronde BSc scriptie kan je de MSc opleiding niet starten.

- Houd bij je keuzemogelijkheden binnen je bacheloropleiding rekening met de toelatingseisen voor de masteropleiding, die je wellicht na je bachelor wilt volgen. Kijk daarom in deze studiegids, onder Algemene Informatie > Verder studeren, voor de toelatingseisen voor iedere masteropleiding van FEWEB.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Advanced Practical</a>	Periode 6	6.0	E_EOR2_ADVP
<a href="#">Econometrics I</a>	Periode 1+2	6.0	E_EOR2_TR1
<a href="#">Econometrics II</a>	Periode 4+5	6.0	E_EOR2_TR2
<a href="#">Ethics</a>	Periode 4+5	6.0	E_EOR2_ETH
<a href="#">Integrative Practical</a>	Periode 3	6.0	E_EOR2_INTP
<a href="#">Mathematical Economics I</a>	Periode 1+2	6.0	E_EOR2_ME1
<a href="#">Mathematical Economics II</a>	Periode 4+5	6.0	E_EOR2_ME2
<a href="#">Numerical Methods</a>	Periode 1+2	6.0	E_EOR2_NUME
<a href="#">Operations Research I</a>	Periode 1+2	6.0	E_EOR2_OR1
<a href="#">Operations Research II</a>	Periode 4+5	6.0	E_EOR2_OR2

## Derde jaar Econometrie en operationele research

Het derde jaar is enerzijds gericht op afronding van je opleiding en verdere integratie en verdieping van de kennis die je in de eerste twee jaar hebt verworven. Anderzijds is het een voorbereiding op het volgen van een masteropleiding, hetzij aan deze faculteit, hetzij elders.

In het eerste semester kun je een minor (30 EC) kiezen (of een andere invulling van de vrije keuzeruimte). In het tweede semester kun je je verder specialiseren in een van de richtingen binnen de opleiding en kun je keuzevakken volgen.

Houd bij je keuzemogelijkheden binnen je bacheloropleiding rekening met de toelatingseisen voor de masteropleiding, die je wellicht na je bachelor wilt volgen. Kijk daarom in deze studiegids, onder Algemene Informatie > Verder studeren, voor de toelatingseisen voor iedere masteropleiding van FEWEB.

Voor studenten die in september 2013 of eerder zijn gestart met de opleiding Bedrijfskunde en die nog vakken van het derde jaar moeten afronden geldt een overgangsregeling.

Opleidingsdelen:

- Derde jaar Econometrie en Operationele Research - Ect/OR/ME III
- Derde jaar Econometrie en Operationele Research - Keuzevakken
- Derde jaar Bachelor Econometrie en Operationele Research – Minor
- Derde jaar Econometrie en Operationele Research – These
- Overgangsregeling voor curriculumwijzigingen

## Derde jaar Econometrie en Operationele Research - Ect/OR/ME III

Kies 1 uit 3 vakken.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Econometrics III</a>	Periode 4	6.0	E_EOR3_TR3
<a href="#">Mathematical Economics III</a>	Periode 4	6.0	E_EOR3_ME3
<a href="#">Operations Research III</a>	Periode 4	6.0	E_EOR3_OR3

## Derde jaar Econometrie en Operationele Research - Keuzevakken

Choose 2 courses.

Choose at least one course (level 300) from the bachelor programme Econometrics and Operations Research, Economics and Business Economics, or a level 300 course at the Faculty of Sciences. The second course can be chosen from the set of Econometrics III, Operations Research III, Mathematical Economics III (period 4), or from Empirical Econometric Modelling; Computational Finance (period 5, also given by the department of EOR), or another course (level 300) from the bachelor programme Economics and Business Economics, or at the Faculty of Sciences.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Accounting Information Systems</a>	Periode 4	6.0	E_EBE3_ACIS
<a href="#">Advanced Programming</a>	Periode 1	6.0	X_400561
<a href="#">Algebraïsche topologie</a>	Periode 4+5	6.0	X_400482
<a href="#">Algorithm Engineering</a>	Periode 2	6.0	XB_400620
<a href="#">Applied Analysis: Financial Mathematics</a>	Periode 1+2	6.0	X_400076
<a href="#">Auditing</a>	Periode 5	6.0	E_EBE3_AUD
<a href="#">Automata and Complexity</a>	Periode 4	6.0	X_401049
<a href="#">Bayesiaanse Statistiek</a>	Periode 4+5	6.0	XBU_400468
<a href="#">Bedrijfsmodellering en requirements engineering</a>	Periode 1	6.0	X_401005
<a href="#">Biomedische wiskunde</a>	Periode 4+5	6.0	X_401056
<a href="#">Business Intelligence and Analytics</a>	Periode 4	6.0	E_IBK3_BIA
<a href="#">Collective Intelligence</a>	Periode 2	6.0	X_401047

Complexe Analyse	Periode 4+5	6.0	X_400386
Complexe dynamische systemen	Periode 1+2	6.0	X_405093
Computational Econometrics	Periode 1	6.0	E_EOR3_CE
Computational Finance	Periode 5	6.0	E_EOR3_CF
Concurrency & Multithreading	Periode 2	6.0	X_401031
Consumer Behavior	Periode 4	6.0	E_EBE3_CBEH
Contemporary Perspectives on HRM Theory	Periode 5	6.0	E_IBK3_CPHRM
Contemporary Perspectives on OB: Leading Change	Periode 4	6.0	E_IBK3_CPOB
Corporate Governance and Accountability	Periode 2	6.0	E_EBE3_CGA
Data Analytics	Periode 2	6.0	E_EOR3_DA
Data Structures and Algorithms	Periode 1	6.0	X_400614
Debates in Consulting Research	Periode 5	6.0	E_IBK3_DCR
Designing Interventions in Business and Society	Periode 3	6.0	E_BK3_DIBS
Differentiaalmeetkunde	Periode 1+2	6.0	X_400631
Digital Marketing and Metrics	Periode 5	6.0	E_EBE3_DMM
Econometrics III	Periode 4	6.0	E_EOR3_TR3
Economic Assessment of Health Care	Periode 1	6.0	E_EBE3_EAHC
Empirical Econometric Modelling	Periode 5	6.0	E_EOR3_EEM
Empirical Economics	Periode 2	6.0	E_EOR3_EEC
Empirical Finance	Periode 2	6.0	E_EOR3_EFIN
Empirical Marketing	Periode 2	6.0	E_EOR3_EMKT
Enterprising Behavior	Periode 2	6.0	E_BK3_ENTBEH
Equational Programming	Periode 3	6.0	X_401011
Filming Entrepreneurship	Periode 2	6.0	E_BK3_FE
Financial Management in Health Care Organizations	Periode 2	6.0	E_EBE3_FMHCO
Financial Markets and Institutions	Periode 4	6.0	E_EBE3_FMI
Financial Modelling and Derivatives	Periode 4	6.0	E_IBK3_FMD
Forensic Statistics	Periode 4+5	6.0	XB_41002
Foundations and Forms of Entrepreneurship	Periode 1	6.0	E_BK3_FFE
Foundations of Strategic Management	Periode 4	6.0	E_IBK3_FSM
Functionaalanalyse	Periode 4+5	6.0	XBU_417013
Galoistheorie	Periode 4+5	6.0	XBU_417008

Getaltheorie	Periode 1+2	6.0	X_400632
Health Care Management	Periode 3	6.0	E_EBE3_HCM
Health Economics	Periode 1	6.0	E_EBE3_HEC
Heuristic Optimization Methods	Periode 1	6.0	E_EOR3_HOM
Heuristics	Periode 3	6.0	X_401012
Human Capital Across the Life Cycle	Periode 5	6.0	E_EBE3_HCALC
Inclusive Growth and Sustainability	Periode 5	6.0	E_EBE3_IGS
Industrial Organization	Periode 4	6.0	E_EBE3_IO
Information Retrieval	Periode 2	6.0	X_400435
Integratief modelleren	Periode 1	6.0	X_401001
Intensionele Logica's en Onzekerheid	Periode 1	6.0	XBU_401108
International Financial Management	Periode 5	6.0	E_IBK3_IFM
Introduction to Time Series	Periode 1	6.0	E_EOR3_ITS
Investments	Periode 5	6.0	E_EBE3_INVES
Judgment and Decision Making	Periode 1	6.0	E_BK3_JDM
Kansrekening: Markov-ketens	Periode 1+2	6.0	XBU_418085
Knowledge Management	Periode 5	6.0	E_IBK3_KM
Leadership: Mobilizing People	Periode 1	6.0	E_BK3_LMP
Logic and Modelling	Periode 5	6.0	X_401015
Machine Learning	Periode 4	6.0	X_400154
Managing and Improving Quality	Periode 5	6.0	E_IBK3_MIQ
Managing Negotiations: Getting to Yes	Periode 2	6.0	E_BK3_MNGY
Mathematical Economics III	Periode 4	6.0	E_EOR3_ME3
Measure Theory	Periode 1+2	6.0	X_401028
New Venture Creation	Periode 3	6.0	E_BK3_NVC
Nudge: Influencing Behavior	Periode 2	6.0	E_BK3_NIB
Operations Analysis	Periode 1	6.0	E_EOR3_OA
Operations Research III	Periode 4	6.0	E_EOR3_OR3
Organizational Behavior and Decision Making	Periode 1	6.0	E_EBE3_OBDM
Partiële Differentiaalvergelijkingen	Periode 4+5	6.0	X_400163
Principles of Bioinformatics	Periode 1	6.0	X_401094
Procurement and Supply Management	Periode 4	6.0	E_IBK3_PSM
Representatietheorie	Periode 1+2	6.0	XBU_417004
Secure programming	Periode 1	6.0	XB_40005
Semantic Web	Periode 1	6.0	X_400083

<a href="#">Service Science</a>	Periode 2	6.0	X_401077
<a href="#">Small Business Development</a>	Periode 5	6.0	E_IBK3_SBD
<a href="#">Statistical Data Analysis</a>	Periode 4+5	6.0	X_401029
<a href="#">Strategic management from a practice perspective: A day in the life of a CEO</a>	Periode 5	6.0	E_IBK3_SMPP
<a href="#">Systems Programming</a>	Periode 1	6.0	X_400377
<a href="#">Wijsgerige vorming 2: Wetenschapsfilosofie</a>	Periode 4	3.0	X_428002
<a href="#">Workshop Mathematical Modelling</a>	Periode 3	6.0	X_401062

## Derde jaar Bachelor Econometrie en Operationele Research – Minor

Het eerste semester is vrije keuzeruimte. Hierin kun je een minor kiezen. Iedere minor bestaat uit vijf vakken van ieder 6 EC. Je hebt de keuze tussen een Faculteitsminor of een Universiteitsminor. Daarnaast heb je de keuze om een eigen vakkenpakket samen te stellen. Dit vakkenpakket dient echter wel vooraf goedgekeurd te zijn door de examencommissie.

Let op: Onderstaande universiteitsminor mag niet gevolgd worden door studenten van de bacheloropleiding Econometrie en Operationele Research:  
- Economics

In plaats van een minor kun je er ook voor kiezen om het eerste semester in het buitenland te gaan studeren. Kijk voor meer informatie op VUnet > Serviceplein > Studeren in het buitenland (Uitwisseling).

Opleidingsdelen:

- [Faculteitsminoren FEWEB](#)
- [Universiteitsminoren](#)

### Faculteitsminoren FEWEB

Underneath the minors that have been developed by the faculty.

Opleidingsdelen:

- [Minor Entrepreneurship](#)
- [Minor Understanding and Influencing Decisions in Business and Society](#)
- [Minor Accounting, Organizations and Society](#)
- [Minor Health Care Management](#)
- [Minor Applied Econometrics: A Big Data Experience for All](#)
- [Minor Operations Analytics](#)
- [Minor E-Business and Online Commerce](#)
- [Minor Sustainability and Innovation](#)

### Minor Entrepreneurship

In FEWEB's minor in entrepreneurship, students not only study entrepreneurs but also become entrepreneurs. This minor is an exciting

set of carefully selected courses that are designed to offer students fundamental knowledge about entrepreneurship in different contexts and enhance their entrepreneurial skill sets. The knowledge students gain from this minor is extremely valuable in today's labor markets, because career success increasingly depends on students' capacity to be proactive, promote change, and pursue new entrepreneurial initiatives that create economic and/or social value. Specifically, completing the minor will allow students to better appreciate the different forms of entrepreneurship across various contexts, understand the distinct challenges faced by entrepreneurs, and find creative solutions for overcoming these challenges. Indeed, both startup and corporate entrepreneurs often struggle to launch and grow new business ventures such that knowledge about how to successfully develop new entrepreneurial initiatives is essential to any student. So if you are thinking about becoming an entrepreneur, this is definitely the minor for you. But also if you do not have plans to go in that direction, this minor is worthwhile because knowledge of entrepreneurship is critical to anyone who interacts in significant ways with entrepreneurs including managers in large established firms, consultants, bankers, and government policy makers.

This minor contains 5 compulsory courses. Instead of the courses *Filming Entrepreneurship* and *New Venture Creation* you may choose to do an internship. Note that the internship has to be approved by the minor coordinator in advance.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Enterprising Behavior</a>	Periode 2	6.0	E_BK3_ENTBEH
<a href="#">Filming Entrepreneurship</a>	Periode 2	6.0	E_BK3_FE
<a href="#">Foundations and Forms of Entrepreneurship</a>	Periode 1	6.0	E_BK3_FFE
<a href="#">Internship Minor Entrepreneurship</a>	Periode 2+3	12.0	E_BK3_IMENT
<a href="#">New Venture Creation</a>	Periode 3	6.0	E_BK3_NVC
<a href="#">Strategic Management of Technology and Innovation</a>	Periode 1	6.0	E_BK3_SMTI

## Minor Understanding and Influencing Decisions in Business and Society

The Department of Marketing offers this FEWEB minor in collaboration with the department of Management and Organization Studies in the fall semester (September-January) starting in the academic year 2016-2017.

The 30 EC programme is entirely taught in English and will allow students to understand and influence human decision making and behavior in the context of organizations (employees, managers, teams) and their interactions with the world outside (markets and consumers, but also business partners and competitors). To achieve this goal, we rely on recent insights from behavioral economics and psychology.

Upon completion of this minor, students will be able to:

- Understand how decisions and behavior are influenced by the physical and social environments and the decision making strategies that are



used.

- Based on this knowledge, develop strategies to influence (e.g., through "nudging") the behavior of others in order to achieve business and societal goals, such as increasing sales or reducing environmental pollution.
- Analyze the behavior of others (e.g., employees) in order to improve cooperation and output of teams and organizations
- Formulate negotiation strategies to achieve optimal results in terms of outcomes (distributive negotiations) and relationships among parties involved (integrative negotiations).
- Reflect on the ethical aspects of such influence strategies

The minor is relevant to:

- All students in Business Administration and Economics
- All students from other bachelor programmes that are interested in decision making and influencing other people's behavior (e.g. health science, communication science, psychology, social sciences).

This minor contains 5 compulsory courses. Instead of the courses Designing Interventions in Business and Society and Managing Negotiations: Getting to Yes you may choose to do an internship. Note that the internship has to be approved by the minor coordinator in advance.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Designing Interventions in Business and Society</a>	Periode 3	6.0	E_BK3_DIBS
<a href="#">Internship Minor Understanding and Influencing Decisions in Business and Society</a>	Periode 2+3	12.0	E_BK3_IMUID
<a href="#">Judgment and Decision Making</a>	Periode 1	6.0	E_BK3_JDM
<a href="#">Leadership: Mobilizing People</a>	Periode 1	6.0	E_BK3_LMP
<a href="#">Managing Negotiations: Getting to Yes</a>	Periode 2	6.0	E_BK3_MNGY
<a href="#">Nudge: Influencing Behavior</a>	Periode 2	6.0	E_BK3_NIB

## Minor Accounting, Organizations and Society

Financial information systems are part of a company's infrastructure. A thorough understanding of the context in which companies operate is required to be able to design effective information systems. Completing this minor will allow students to understand the effects of integrating traditional bookkeeping with modern IT systems, the legal and societal role of good Corporate Governance as well as the importance of organizational behavior and decision making.

The minor contains 5 compulsory courses.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Accounting and IT Systems I</a>	Periode 1	6.0	E_EBE3_AIT1
<a href="#">Accounting and IT Systems II</a>	Periode 2	6.0	E_EBE3_AIT2
<a href="#">Corporate Governance and Accountability</a>	Periode 2	6.0	E_EBE3_CGA
<a href="#">Organizational Behavior and Decision Making</a>	Periode 1	6.0	E_EBE3_OBDM
<a href="#">Tax and Organizations</a>	Periode 3	6.0	E_EBE3_TO

## Minor Health Care Management

The minor Health Care Management is a joint programme offered by the Faculty of Economics and Business Administration (FEWEB) and the Faculty of Earth and Life Sciences (FALW). It is open to all bachelor students from the VU, from other Dutch universities and from universities abroad.

This minor discusses health care policy from an economic perspective and deals with management of health care organizations, using economic, organization, accounting and finance theories and methods. It offers students in economics and business sciences the opportunity to use economic and organizational theories which enables them to gain in-depth knowledge about the cure and care sector. The minor is also useful for students from other faculties who have studied health care issues from another perspective, like medicine, social sciences, life sciences and behavioral and movement sciences. The minor may be especially helpful for those students who consider working in policy development or managerial positions within the health care sector. The minor relates to two major VU themes: Human & Life Sciences en Professional Services.

The minor focuses on the following themes:

- The economic effects of health, illness, demographic developments and aging.
- The role of government intervention in the health care market, positive and negative economic implications of regulation.
- Structure and functioning of care and cure markets, and the way health care supply meets health care demand.
- The role of health insurance arrangements in influencing health care supply.
- Policy issues around health care regulation, accessibility of care, cost control and health care quality.
- Financial management of health care organizations in their pursuit of health care productivity, cost effectiveness and quality.
- Management of health care organizations, the role of management in steering and controlling professionals, leadership, and communication.

The minor enables students to analyze the effectiveness of health care policies, to analyse complex issues related to financing and controlling health care institutions, and to improve internal management issues within health care organizations.

The minor contains 5 compulsory courses.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Economic Assessment of Health Care</a>	Periode 1	6.0	E_EBE3_EAHC
<a href="#">Economics of the Dutch Health Care System</a>	Periode 2	6.0	E_EBE3_EDHCS
<a href="#">Financial Management in Health Care Organizations</a>	Periode 2	6.0	E_EBE3_FMHCO
<a href="#">Health Care Management</a>	Periode 3	6.0	E_EBE3_HCM
<a href="#">Health Economics</a>	Periode 1	6.0	E_EBE3_HEC

## Minor Applied Econometrics: A Big Data Experience for All

An excellent opportunity to experience Econometrics.

The Department of Econometrics & Operations Research of the Vrije Universiteit Amsterdam offers in the first semester (from September to January), starting from the academic year 2016/2017, a 30 EC Minor in Applied Econometrics. A broad spectrum of Econometrics is presented by top-class teachers and professors in the fields of Econometrics, Economics, Finance and Marketing. In all courses the aspects and challenges of specifying, estimating and interpreting models for empirical data will be highlighted. The courses and material are presented in English. If you enjoy doing mathematics and statistics (at any level), if you want to learn about writing software code for powerful computers, and/or if you want to know the importance of Econometrics for Economics, Finance and/or Marketing, then this Minor should be of interest to you.

An attractive Bachelor programme for all.

We aim to present an attractive programme for VU economics and business students (from Bachelor programmes "Economie & Bedrijfseconomie", "Bedrijfskunde" and "IBA") who want to develop a quantitative profile, AND for VU Econometrics students in our Bachelor programme. But also for all other Bachelor students in The Netherlands and outside, this Minor will be a good opportunity to learn about Econometrics. In addition, the students in this Minor will reach for the entrance requirements for Master (honour) programmes such as Quantitative Economics, Quantitative Risk Management, Financial Econometrics, but also other Masters such as Quantitative Marketing, Econometric Theory, Applied Econometrics, etcetera.

Please note that for admission of external students to the VU Master Econometrics & OR (with specialization Econometrics) it suffices to do the minor Applied Econometrics - without an internship, so that all 30 EC of the minor are obtained in courses.

An in-depth introduction to Econometrics.

The Minor Applied Econometrics provides a thorough introduction to econometric methods and techniques with an emphasis on how to implement and carry out the methods in empirical studies and how to interpret the results. The key steps of model formulation, parameter estimation, diagnostic checking, hypothesis testing, model selection and empirical analysis are given extensive attention throughout the different courses.

Apart from the fundamentals of econometrics, much emphasis is given to how econometric methods are carried out in different empirical settings and studies. Particular attention will be given to issues related to "big data" in the context of different disciplines in economics and business. The students are given some flexibility to opt for a specialization in economics, finance or marketing; one may label such specializations as "Minor in Applied Econometrics", "Minor in Financial Econometrics", "Minor in Quantitative Marketing", etc. It will allow the student to focus on a subject of their own liking.

All students with a liking of mathematics, statistics and/or computing are welcome.

This Minor is targeted to all students of VU Bachelor programmes but also to students, in and outside The Netherlands, and from all Bachelor studies. We aim to attract a heterogeneous group of Bachelor students from VU and outside with good knowledge of mathematics and statistics courses (ideally with grades greater than or equal to 7, but we do not set requirements), and for those who want to distinct themselves. We offer these motivated students an opportunity to gain an intermediate level in Econometrics and to obtain experience in empirical research within different fields (economics, finance, marketing, etc.)

Bachelor Econometrics students are especially welcome.

For Bachelor Econometrics students, there is the highly recommendable option in the first period to take the course "Computational Econometrics", as a substitute for the course "Introduction to Econometrics". In this way we make this Minor also of interest to Econometrics students. Furthermore, students can opt for research internships within the Department: to get an experience in working within a research environment and to get a first training in teaching mathematics, statistics and econometrics.

Do you prefer an internship?

It is possible to do an internship at a private company or institution during the Minor in Applied Econometrics. This internship should be approved by the coordinator of the Minor, dr. Lennart Hoogerheide. When approved, the student must write a report about the internship. The internship counts for 12 EC: it replaces one of the two courses in period 3.2 (so that the student must follow only one of the courses in period 3.2) and the "Case study" of period 3.3.

Or do you prefer a research internship?

An alternative for the best-performing students is to opt for an internship within our Department of Econometrics, where the student can study one or more research topics in the field of Econometrics and to get a training in teaching quantitative methods. The research topic is typically in econometric theory. So this option may be particularly interesting for students who have a desire to increase the depth of their econometric theoretical knowledge during the Minor.

This minor consists of compulsory and elective courses.

- The compulsory courses are Case Study: A Modelling Competition, Introduction to Time Series and, depending on the programme you follow, either Computational Econometrics (for econometric students), or Introduction to Econometrics (for non-econometric students).
- In addition you may choose 2 out of 3 elective courses.
- On top of the programme, described above, you may opt for an internship of 12 EC. In that case, the internship replaces the obligatory course Case Study: A Modelling Competition as well as one of

the elective courses (so you choose 1 in stead of 2 elective courses).  
Note that the internship has to be approved by the minor coordinator in advance.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Case Study: A Modelling Competition</a>	Periode 3	6.0	E_EOR3_CSMC
<a href="#">Computational Econometrics</a>	Periode 1	6.0	E_EOR3_CE
<a href="#">Empirical Economics</a>	Periode 2	6.0	E_EOR3_EEC
<a href="#">Empirical Finance</a>	Periode 2	6.0	E_EOR3_EFIN
<a href="#">Empirical Marketing</a>	Periode 2	6.0	E_EOR3_EMKT
<a href="#">Internship Minor Applied Econometrics: A Big Data Experience for All</a>	Periode 2+3	12.0	E_EOR3_IMAE
<a href="#">Introduction to Econometrics</a>	Periode 1	6.0	E_EOR3_IE
<a href="#">Introduction to Time Series</a>	Periode 1	6.0	E_EOR3_ITS

## Minor Operations Analytics

The minor where Theory meets Practice in Business. Are you a quant? And are you ready for testing your quantitative skills and apply your mathematical knowledge on real-life challenges in business operations? Then this may be the minor for you!

The minor for quantitative decisions making in business.

The Department of Econometrics and Operations Research of the Vrije Universiteit Amsterdam offers this minor in collaboration with the department of Information, Logistics and Innovation in the fall semester (September-January) starting in the academic year 2016-2017. Real-life challenges in business operations by applying mathematical analytical methods and techniques from Operations Research and Operations Management are at the core of this minor.

By an exciting set of carefully selected courses and business cases, in this minor you will explore the spectrum of analytics skills required for becoming successful in decision making in business. These skills range from identify problems requiring managerial action and translating managerial decisions into mathematical models, to applying, designing and programming algorithms for solving the resulting mathematical problems, to eventually drawing managerial conclusions taking into account behavioral aspects. After finishing your minor, you will be ready for better decision making in business with your quantitative talent as a firm basis.

The students.

The minor is aimed at a mixture of students from Econometrics and Operations Research (EOR) and students from Business Administration (BA) with a strong quantitative interest. However, any student in the Netherlands and abroad with an interest in applying mathematics in a business environment should be interested in this minor. Specifically, students from all over the world in Applied Mathematics (AM), and

Industrial Engineering (IE) are more than welcome to join.

#### Programme.

The 30 EC programme is entirely taught in English. It consists of three courses a case lab and a business game of 6 EC each. A course Operational Analysis offers models and concepts to analyze operations management problems occurring in a variety of industries. A course Heuristic Methods focusses on practice oriented algorithm design. In a Data Analytics course the challenges of extracting useful information from big data to support decision making in business environments will play a central role. The tools developed in these courses will be applied to challenging and significant business cases in the rest of the programme. The Case Lab will draw from a rich variety of business settings, such as supply chain management, revenue management (e.g. in airline industry), marketing, work force planning and health care. The Business Game will simulate the whole process of managerial decision making in a practical business situation, giving you a real-life experience of applying the material studied in a business environment. The experience offered by these case studies will be greatly magnified by the aimed mixture of backgrounds of the participating students.

#### Lecturers.

The lectures will be given by internationally renowned lecturers from the departments of Econometrics and Operations Research and Information, Logistics and Innovation. The foundations of Operations Analytics on mathematical modelling, data analysis and the design and analysis of algorithms is core business of the Operations Research group at the VU. Next to researchers on the methodological mathematical aspects of Operations Research, the group hosts professors who share their position at the VU with a key position in the consultancy industry. They will share with the students their broad experience in both the practical and the mathematical side of OR-applications in Business Processes. The application of advanced Operations Research techniques is one of the most prominent pillars of the Logistics research group. The minor aligns well with the 3 main research tracks within the Logistics research group being (i) performance benchmarking and best practices, (ii) network planning and redesign and (iii) supply chain coordination and incentive alignment. As such, insights from ongoing research will be integrated in the lectures and case discussions by lecturers in Logistics from the VU.

#### Internship.

If you want to acquire experience outside of the university, to apply the theory you studied in real-life, then this minor offers you the opportunity to do an internship. The internship is 12 EC and will replace the case oriented courses (Case Lab and the Business Game). In general it will be at a company and will be concluded with a written report. A few talented students may be offered the option to do a research and teaching internship within the participating departments. The internship always has to be approved by the coordinator of the minor Prof. Dr. Leen Stougie.

#### Entry requirements.

We aim at a mixture of students of different backgrounds but we expect every student to have completed the mathematics courses in his or her bachelor programme, preferably with good notes. Basic knowledge of optimization algorithms is helpful but certainly not required. If you have the feeling that this is the minor you are looking for, then we are looking for you and welcome you to apply.

This minor contains 5 compulsory courses. Instead of the courses Business Game and Case Lab you may choose to do an internship. Note that the internship has to be approved by the minor coordinator in advance.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Business Game</a>	Periode 3	6.0	E_EOR3_BG
<a href="#">Case Lab</a>	Periode 2	6.0	E_EOR3_CL
<a href="#">Data Analytics</a>	Periode 2	6.0	E_EOR3_DA
<a href="#">Heuristic Optimization Methods</a>	Periode 1	6.0	E_EOR3_HOM
<a href="#">Internship Minor Operations Analytics</a>	Periode 2+3	12.0	E_EOR3_IMOA
<a href="#">Operations Analysis</a>	Periode 1	6.0	E_EOR3_OA

## Minor E-Business and Online Commerce

Business-related interactions are increasingly facilitated by various Information & Communication Technologies - from websites and social media to Enterprise Systems, from mobile devices to EDI. In the minor E-business and online commerce, this development is viewed from different disciplines, yet with an integrative perspective. With a focus on Business-to-Consumer online commerce (although taking into account Business-to-Business and Consumer-to-Consumer interaction as well), we address the Marketing, Logistics and Information Systems-related aspects of E-Business. This minor provides students with an in-depth knowledge of the full range of business aspects related to E-business - from consumer interaction to fulfillment, and from marketing strategy to data, analytics and information systems. This knowledge will be applied in answering both academic and practical questions. Also, students will be stimulated to critically reflect on the business and ethical issues related to E-business and online commerce.

For who?

This minor is relevant to students from both the business administration (BK/IBA) and the economics and business economics (EBE) programme. For EBE students, this minor is relevant since commerce is a crucial factor from both a macro-economic and a business economics perspective. As interactions between business and customers increasingly move to the online world, this has far reaching economic implications at several levels.

This minor contains 5 compulsory courses. Instead of the courses Emerging Technologies for E-Business and Online Commerce and Information Systems in E-Business and Online Commerce you may choose to do an internship. Note that the internship has to be approved by the minor coordinator in advance.

Vakken:

Naam	Periode	Credits	Code
------	---------	---------	------



Consumer Science for Online Commerce	Periode 1	6.0	E_IBA3_CSOC
E-Commerce Supply Chain Management	Periode 2	6.0	E_IBA3_ESCM
Emerging Technologies for E-Business and Online Commerce	Periode 3	6.0	E_IBA3_ETEOC
Information Systems in E-Business and Online Commerce	Periode 2	6.0	E_IBA3_ISEOC
Internship Minor E-business and Online Commerce	Periode 2+3	12.0	E_IBA3_IMEOC
Introduction to E-Business and Online Commerce	Periode 1	6.0	E_IBA3_IEOC

## Minor Sustainability and Innovation

Sustainable development is one of the key challenges for the 21st century. The minor on Sustainability and Innovation offers students a programme rooted in business and economics to explore how innovation can contribute to sustainable development. Sustainability builds on the understanding that actions 'here and now' have effects in other places, for other people, at other moments in time. This leads to grand challenges such as problems with global warming, water, energy, and poverty. Yet, addressing such grand challenges offers opportunities for business as well, and many leading companies and new start-ups are reaping such opportunities. Through sustainable innovations like renewable energy solutions, micro loans, circular business models, and 'sharing economy' platforms, to name just a few, these emerging businesses tap into growth markets. Characteristic of these opportunities is that they create shared value: they do not only create profit, but also create value for planet and people. In this minor students will learn to understand global and local sustainability issues, and learn how to apply this knowledge to design strategies, value chains, and innovations. With its academically and practically challenging programme, this minor aims to inspire students that wish to take on an entrepreneurial role in society by joining an established firm, a government agency, or by starting a firm themselves.

For who?

This minor can be followed by all FEWEB bachelor students. In addition, advanced bachelor students (third year) from other faculties as well as other universities are welcome to join. Particularly those with an interest in Business and Organization Studies, Economics, Social Sciences, Social Psychology, Healthcare, Media and Communication Studies, Engineering, Technology Management, Operations Management and Education.

It is especially interesting for:

- Future managers who want to understand how sustainability can be implemented in existing business
- Entrepreneurs / intrapreneurs that want exploit the opportunities sustainability offers
- Future consultants in sustainability, strategic business consultants, of government policy consultants
- Students that want to be active in NGO's or other societal

organizations

Language.

The minor programme will be taught in English.

#### Courses

The programme consists of five courses of 6 EC. These courses zoom in from societal and economical issues, to businesses processes and stakeholders, to specific innovations and how they can be marketed. The programme starts with providing insight in the grand challenges for sustainability and the introduction of a stakeholder perspective on organizations. This stakeholder perspective is applied in courses on organizing for sustainable innovation and the management of sustainable supply chains. In the last course on marketing and consumer behavior, students can show their understanding of the previous courses by designing a marketing plan for an innovative product, service or business model.

Internship.

It is possible to replace two of the courses for an internship that will be supervised by one of the lecturers of the courses. The courses to be replaced are one out of the two courses "Organizing sustainable innovation" and "Sustainable supply chain management" (both in period 2) in combination with "Marketing sustainable innovations" (in period 3). Internships should be aligned with a topics addressed in the minor and should be initiated by students. Proposals for an internship need approval from the minor coordinator.

Coordinator.

Hans Berends (temporary replacing Rosalinde Klein Woolthuis)  
Professor of Innovation and Organization  
Department of Information, Logistics and Innovation  
[j.j.berends@vu.nl](mailto:j.j.berends@vu.nl)

This minor contains 5 compulsory courses. Instead of the courses Marketing Sustainable Innovations and Organizing Sustainable Innovation you may choose to do an internship. Note that the internship has to be approved by the minor coordinator in advance.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Grand Challenges for Sustainability</a>	Periode 1	6.0	E_IBA3_GCS
<a href="#">Internship Minor Sustainability and Innovation</a>	Periode 2+3	12.0	E_IBA3_IMSI
<a href="#">Marketing Sustainable Innovations</a>	Periode 3	6.0	E_IBA3_MSI
<a href="#">Organizing Sustainable Innovation</a>	Periode 2	6.0	E_IBA3_OSI
<a href="#">Shared Value Creation</a>	Periode 1	6.0	E_IBA3_SVC
<a href="#">Sustainable Supply Chain Management</a>	Periode 2	6.0	E_IBA3_SSCM

## Universiteitsminoren

De universiteitsminoren

- Zijn in principe toegankelijk voor alle bachelorstudenten van alle faculteiten.
- Kennen voor sommige minoren een toegangseis.
- Hebben een vaste omvang van 30 EC.
- Vooraf geen toestemming van je eigen examencommissie nodig om de 30 EC van deze minor mee te laten tellen in het afstudeerpakket van je opleiding.
- Indien een bepaald vak uit de universiteitsminor onderdeel uitmaakt van je reguliere curriculum, kun je deze minor niet (volledig) volgen omdat vakken niet twee keer kunnen meetellen. Vraag in dat geval toestemming van de examencommissie voor de invulling van de profileringsruimte.

Opleidingsdelen:

- [Minor Brain and Mind](#)
- [Minor Sport, Movement and Health](#)
- [Minor Business Administration](#)
- [Minor Managing Digital Innovation](#)
- [Minor Economics](#)
- [Minor God in Nederland](#)
- [Minor Islam](#)
- [Minor Aan de slag met Literatuur](#)
- [Minor Psychologie en het Brein](#)
- [Minor Transnational Law and Society](#)
- [Minor Development Studies](#)
- [Minor Frontiers of Multicultural Societies](#)
- [Minor Netwerken in de informatiemaatschappij](#)
- [Minor Organizational Culture](#)
- [Minor Political Science](#)
- [Minor Filosofie](#)

## Minor Brain and Mind

Vakken:

Naam	Periode	Credits	Code
<a href="#">Brain in Trouble</a>	Periode 2	6.0	AB_1038
<a href="#">Cognitive Neuroscience</a>	Periode 1	6.0	AB_1056
<a href="#">Mind and Machine</a>	Periode 3	6.0	AB_1060
<a href="#">Nature versus Nurture</a>	Periode 1	6.0	AB_1057
<a href="#">The Developing Brain</a>	Periode 2	6.0	AB_1059

## Minor Sport, Movement and Health

Vakken:

Naam	Periode	Credits	Code
Inleiding Inspanningsfysiologie	Periode 1	6.0	B_IF
Neuro- en Revalidatiepsychologie	Periode 3	6.0	B_NEURREVPSY
Revalidatie	Periode 1	6.0	B_REVAL
Sensomotorische Coördinatie	Periode 2	6.0	B_SENSOCOR
Sportpsychologie	Periode 1	6.0	B_SPORTPSY
Talent en Talentontwikkeling	Periode 3	6.0	B_TALENT
Toegepaste Inspanningsfysiologie	Periode 2	6.0	B_TIF

## Minor Business Administration

Why are some companies outperforming their rivals? How is it that companies like Nike and ASML are responsive to changes in customer preferences and are successfully battling their competitors, whereas companies like General Motors and Philips struggle? Why are companies like Airbnb and Uber successful in developing and selling product and service innovations, whereas publishers and record companies lack innovative capacity? How is it possible that long-existing companies are surpassed by new venture start-ups with radical different business approaches, such as Shapeways and Blendle? The answers to these questions show that high-performing companies excel in using new ways of management and organization. Specifically, these companies have business models that work in today's dynamic environment.

In the Minor in Business Administration you will learn to build, assess, and change business models and tackle management and organization issues.

The Minor in Business Administration is a 30 EC programme taught in English. You will become familiar with the foundations of business administration: strategy, marketing, finance, accounting, logistics, technology, and human resource management. Using business model thinking, you will combine and apply the knowledge from these disciplines to study businesses. In addition, midway the programme you are asked to select a specialization theme, which enables you to obtain a deeper understanding about the relationship between your profession and a business discipline. In addition to academic skills, the programme emphasizes professional skills, including creativity, communication, reflexivity, and consultancy. The Minor Business Administration provides you with knowledge and skills to successfully act in dynamic organizations, irrespective of your professional background.

Students in the BSc programmes Economics and (International) Business Administration are excluded from participating in this University Minor.

Vakken:

Naam	Periode	Credits	Code
Business Model Assessment	Periode 2	6.0	E_MB_BMA

<a href="#">Business Model Innovation</a>	Periode 1	6.0	E_MB_BMI
<a href="#">Business Professionals</a>	Periode 2	6.0	E_MB_BPROF
<a href="#">Business Project</a>	Periode 3	6.0	E_MB_BPROJ
<a href="#">Foundations of Business Administration</a>	Periode 1	6.0	E_MB_FBA

## Minor Managing Digital Innovation

The opportunities of the digital era are essentially unlimited. Innovative technologies may completely change how business and design processes are set up, while new directions for fruitful start-ups are countless. This calls for new and strategic ways of organising these opportunities to innovate in the digital world. If you are interested in new, exciting ways to organise for digital innovation, if you want to learn how new digital technologies such as big data, 3D printing and robotization change the way of working in your own field of expertise; if you are interested in how to design and organise pervasive digital technologies, if you would like to start your own Spotify, Uber or Airbnb in your own specific discipline and would like to learn how to do so; if you are interested in new professional, organisational and managerial insights related to digital innovation, this minor is for you.

This minor is a 30 EC programme taught in English. The programme consists of five courses taught during the first semester of the third year of your Bachelor program.

Students in the Bachelor programmes (International) Business Administration are excluded from participating in this university minor.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Business Intelligence and Analytics</a>	Periode 2	6.0	E_MM_BIA
<a href="#">Ethics of Algorithms</a>	Periode 3	6.0	E_MM_ETHA
<a href="#">Introduction to Digital Innovation</a>	Periode 1	6.0	E_MM_IDI
<a href="#">New Ways of Working</a>	Periode 2	6.0	E_MM_NWW
<a href="#">Strategic Management of Technology and Innovation</a>	Periode 1	6.0	E_BK3_SMTI

## Minor Economics

What is the future of employment in the face of technical innovation? Why does the discovery of natural resources make a country sometimes poorer rather than richer? How can we keep the pension and health care system sustainable if there are only half as many working age people? Why do economic crises occur? These questions illustrate how economics touches upon the most pressing problems of today: economic well-being, inequality and sustainability. In the minor in Economics you will learn to tackle economic issues by learning to think like an economist.

The minor in Economics is a 30 EC programme taught in English. You will become familiar with the development of economic thought, including the principles of micro- and macroeconomic theory and key insights from empirical economic analysis. You will gain insight into the role of economic policy, learning to identify when markets fail and when policy interventions may provide solutions. Finally, you learn to take a structured approach to solving practical problems using economic core concepts. Upon completion you will have a proven ability to apply sound economic reasoning to a range of issues on a micro- and macroeconomic level, for example related to health, law, environment, finance, labor, transport, and development.

Students in the BSc programmes Economics and Econometrics are excluded from participating in this university minor.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Applications in Economic Policy: Policy Analysis, Formulation and Evaluation</a>	Periode 3	6.0	E_ME_AEP
<a href="#">Business Cycles and Stabilization Policy</a>	Periode 2	6.0	E_ME_BCSP
<a href="#">Development of Macroeconomic Thought</a>	Periode 1	6.0	E_ME_DMT
<a href="#">Foundations of Microeconomics</a>	Periode 1	6.0	E_ME_FM
<a href="#">Structural Policy</a>	Periode 2	6.0	E_ME_SP

## Minor God in Nederland

Waarom is het Nederlandse koningshuis protestants? Waarom is het noorden van Nederland protestants en het zuiden katholiek? Waarom was Amsterdam zo'n joodse stad? Waren de regenten in de Gouden Eeuw echt zo tolerant? Hoe anti-religieus was de Verlichting in Nederland? Waarom was Nederland voor 1960 zo kerkelijk? Hoe komt dat het confessionele partijen een groot deel van de 20 eeuw aan de macht waren? Voor dergelijke vragen kun je terecht in de minor God in Nederland. In vijf modules krijg je inzicht in de Nederlandse religiegeschiedenis op lange termijn. Aan de Faculteit der Geesteswetenschappen doceren bekende specialisten op dit gebied binnen het Amsterdam Institute for Religious History. Hieronder valt onder meer het Historisch Documentatiecentrum, dat een unieke collectie beheert op het gebied van protestantse geschiedenis. Bij de Universiteitsbibliotheek zullen we gebruik maken van deze collectie om het historisch handwerk te oefenen.

### Eindtermen

De student heeft na het volgen van de minor een breed en actueel inzicht in de Nederlandse religiegeschiedenis. Twee modules in periode 1 bieden een stevig fundament voor een algemene theoretisch/historiografische en cultuur-/religiehistorische benadering. Twee modules in periode 2 zoomen in op de joodse geschiedenis en de eigentijdse geschiedenis van het protestantisme. In de laatste module in periode 3 gaat het over de Bijbel als boek en bron van culturele en religieuze identiteitsvorming.

## Ingangseisen en doelgroep

De minor is met name bedoeld voor derdejaars bachelorstudenten Geschiedenis, Religiewetenschappen of Theologie, hetzij aan de VU, hetzij aan een andere universiteit, maar staat ook open voor andere studenten. Deelnemers dienen 90 ECTS te hebben behaald. Aanbevolen voor (research) masters, specialisatie Church History (GGL) resp. Geschiedenis (FGW).

## Coördinatie

Prof. dr. Fred van Lieburg (Geesteswetenschappen)  
([f.a.van.lieburg@vu.nl](mailto:f.a.van.lieburg@vu.nl))

## Studiegidsinformatie

Bekijk hieronder de vakken van de minor en lees meer over het programma.

## Vakken:

Naam	Periode	Credits	Code
<a href="#">De bijbel als Volksboek</a>	Periode 3	6.0	G_BIJVOL
<a href="#">Inleiding Nederlandse religiegeschiedenis</a>	Periode 1	6.0	L_GNBAALG002
<a href="#">Internationale protestantse relaties</a>	Periode 1	6.0	L_GCBAALG005
<a href="#">Joodse religieuze culturen</a>	Periode 2	6.0	L_GCBAALG006
<a href="#">Nieuwe religiositeit: Nederlands protestantisme na de Tweede Wereldoorlog</a>	Periode 2	6.0	G_NWRELIG

## Minor Islam

### Vakken:

Naam	Periode	Credits	Code
<a href="#">Geschiedenis van de Islam tot 1800</a>	Periode 2	6.0	G_GESISTOT18
<a href="#">Inleiding in de Koran en Soenna</a>	Periode 1	6.0	G_INLKOSO
<a href="#">Islam en Europese cultuur</a>	Periode 1	6.0	G_ISLEURCUL
<a href="#">Islamitische ethiek</a>	Periode 3	6.0	G_ISLAMET
<a href="#">Islamitische theologie/Kalam</a>	Periode 2	6.0	G_ISLMTHKAL

## Minor Aan de slag met Literatuur

Wil je zelf schrijver worden? Heb je altijd al de 'grote' romans uit de wereldliteratuur willen lezen? Grijp nu je kans en volg de caleidoscopische minor 'Aan de slag met literatuur', die in de voorafgaande jaren door vele studenten is bezocht en lof kreeg toegezwaaid. In deze minor gaat het om de relatie tussen literatuurwetenschappelijke theorie en literaire praktijk; om academische literatuurbeschouwing en de lectuur of interpretatie van



romans en verhalen die velen hebben gefascineerd. De voertaal is Nederlands.

De minor is toegankelijk voor alle studenten in en buiten de VU. Hou je van lezen, van letteren? Grijp dan je kans. Voor studenten Literatuur en Samenleving is de minor een mooie aanvulling op het bachelorprogramma, want er worden auteurs en onderwerpen besproken die nog niet eerder aan bod zijn geweest.

De minor bestaat uit twee verplichte onderdelen en twee onderdelen waaruit je een keuze maakt. In periode 1 en 2 volgen alle studenten de onderdelen 'Meesterwerken uit de wereldliteratuur' en 'Inleiding Editiewetenschap: papier en digitaal'. Daarna maak je een keuze uit twee vakken (zie hieronder en zie schema op de achterkant).

De cursussen in het kort

In 'Meesterwerken uit de wereldliteratuur' passeren grote namen de revue: Lucretius, Hermans, Houellebecq, Milne Flaubert, Nabokov en Mann komen aan bod. Je leert de structuur en de thematiek van hun werken analyseren en bestudeert de doorwerking van deze teksten op de literatuur van later eeuwen. Daarnaast maak je kennis met het uitgeven van teksten: in het onderdeel 'Inleiding editiewetenschap: papier en digitaal' krijg je antwoord op vragen als: zijn digitale ontwikkelingen een bedreiging of een kans voor boekhandels en bibliotheken? Gaan mensen anders lezen als ze een e-book gebruiken? Bovendien leer je zelf een editie van een tekst verzorgen.

In periode 2 maak je een keuze tussen 'Creative Writing' of 'Schrijvershuisbezoeken'. Studenten Literatuur en Samenleving kiezen voor 'Schrijvershuisbezoeken' (omdat zij al eerder in hun opleiding een module creatief schrijven hebben gehad). Tijdens de colleges 'Creative Writing' schrijf je zelf een kort verhaal. Als je zelf schrijft, begrijp je namelijk beter hoe het literaire mechaniek werkt: structuur, stijl, plot, genre, ruimte. In het vak 'Schrijvershuisbezoeken' tot slot ga je samen met de Vrije Schrijver van de VU op bezoek bij literaire auteurs en discussieer je met hen over hun recente werk en hun opvattingen over literatuur.

Wil je meer weten?

Meer informatie over deze minor vind je in de studiegids. Je kunt ook contact opnemen met de coördinator van de minor, Jacqueline Bel ([j.h.c.bel@vu.nl](mailto:j.h.c.bel@vu.nl)).

Vakken:

Naam	Periode	Credits	Code
<a href="#">Creative Writing</a>	Periode 2	6.0	L_NNBAALG001
<a href="#">Inleiding editiewetenschap 1</a>	Periode 1	6.0	L_AABAALG060
<a href="#">Inleiding editiewetenschap 2</a>	Periode 2	6.0	L_AABAALG062
<a href="#">Meesterwerken uit de wereldliteratuur</a>	Periode 1+2	12.0	L_AABAALG020
<a href="#">Schrijvershuisbezoeken</a>	Periode 2	6.0	L_NNBAALG002

## Minor Psychologie en het Brein

De kennis over de psyche en ons brein groeit snel. Wekelijks verschijnen er artikelen en boeken met baanbrekende inzichten over de werking van onze hersenen en het effect hiervan op ons gedrag. Deze kennis verandert de wereld, met steeds sterk wordende effecten op marketing, rechtspraak, technologie, computers, onze voeding en de economie. Het geeft ons inzichten in waarin en waarom we van elkaar verschillen, en helpt ons bepaalde groepsprocessen in de maatschappij te verklaren. Kennis over de psychologie en ons brein zijn een must voor iedereen die wil begrijpen waarom we doen wat we doen.

#### Doel

De minor Psychologie en het brein laat studenten kennismaken met de vakgebieden die gedrag en brein onderzoeken. Studenten krijgen in de minor een overzicht van de psychologie en de cognitieve neurowetenschappen, en worden vervolgens geïntroduceerd in de manier van onderzoek doen in deze velden. De doelstellingen hierbij zijn bij de student:

- a. de kennis aan te brengen om met verstand te oordelen over claims die zowel binnen als buiten de wetenschap over psyche en brein worden gemaakt,
- b. de vaardigheden bij te brengen om zelf onderzoek te doen naar psyche en brein.

#### Doelgroep:

De minor is aantrekkelijk voor studenten met een algemene interesse in psychologie en de hersenen, met voorkennis van statistiek (zoals aangeboden in bachelors in de sociale wetenschappen, economie, exacte en biomedische wetenschappen).

#### Ingangseisen:

- Minstens 90 EC behaald binnen één bachelorprogramma.
- Minstens 6 EC behaald aan statistische vakken.
- Voor het laatste vak, Research Toolbox, geldt als ingangseis dat het eerste vak, Inleiding Psychology (UM), gehaald moet zijn.

#### Aantal deelnemers:

Er geldt een maximum van vijftig studenten per jaar, die op basis van First come First serve worden gekozen.

#### Vakken:

Naam	Periode	Credits	Code
<a href="#">Behaviour Genetics (UM)</a>	Periode 2	6.0	P_UBEHGEN
<a href="#">Biologische Psychologie (UM)</a>	Periode 2	6.0	P_UBIOPSY
<a href="#">Cognitive Neuroscience (UM)</a>	Periode 1	6.0	P_UCOGNEUS
<a href="#">Inleiding Psychologie (UM)</a>	Periode 1	6.0	P_UINLPSY
<a href="#">Psychophysio and Cogn. Applications (UM)</a>	Periode 3	6.0	P_UPCAPP

## Minor Transnational Law and Society

Vakken:

Naam	Periode	Credits	Code
Current Issues in Transnational Law	Periode 3	3.0	R_CIsTrL
Human Rights and Migration: Citizenship	Periode 2	6.0	R_HumRC
Human Rights and Migration: Current Issues	Periode 3	3.0	R_HumRCI
Human Rights and Migration: The Border	Periode 1	6.0	R_HumRB
Internet Governance	Periode 1	6.0	R_InternGov
Transnational Law in Theory and Practice	Periode 2	6.0	R_TL-TP

## Minor Development Studies

Vakken:

Naam	Periode	Credits	Code
Culture and Citizenship	Periode 2	6.0	S_CC
Development and Globalization	Periode 1	6.0	S_DG
Development from an Interdisciplinary Viewpoint	Periode 3	6.0	S_DIV
Environment and Development	Periode 1	6.0	S_ED
Global Political Economy	Periode 2	6.0	S_GPE

## Minor Frontiers of Multicultural Societies

Vakken:

Naam	Periode	Credits	Code
Global Religion and Local Diversity	Periode 2	6.0	S_GRLD
Identity and Diversity in Organizations	Periode 2	6.0	S_IDO
Radicalization and Conflict	Periode 1	6.0	S_RC
Sociology of Globalization and Multiculturalism	Periode 1	6.0	S_SGM
Urban Struggle	Periode 3	6.0	S_US

## Minor Netwerken in de informatiemaatschappij

Vakken:

Naam	Periode	Credits	Code
<a href="#">Analyselab</a>	Periode 3	6.0	S_AL
<a href="#">De netwerksamenleving</a>	Periode 1	6.0	S_DNWS
<a href="#">De virtuele organisatie</a>	Periode 2	6.0	S_DVO
<a href="#">Democratie 2.0</a>	Periode 2	6.0	S_DM20
<a href="#">Social Media</a>	Periode 1	6.0	S_SM

## Minor Organizational Culture

Vakken:

Naam	Periode	Credits	Code
<a href="#">Business Anthropology</a>	Periode 1	6.0	S_BA
<a href="#">Identity and Diversity in Organizations</a>	Periode 2	6.0	S_IDO
<a href="#">Intercultural Communication</a>	Periode 1	6.0	S_IC
<a href="#">Organization Politics</a>	Periode 2	6.0	S_OP
<a href="#">Organizational Discourse and Narrative Analysis</a>	Periode 3	6.0	S_ODNA

## Minor Political Science

Vakken:

Naam	Periode	Credits	Code
<a href="#">Capita Selecta Political Science</a>	Periode 3	6.0	S_CSps
<a href="#">Comparative Political Research</a>	Periode 2	6.0	S_CPR
<a href="#">Global Political Economy</a>	Periode 2	6.0	S_GPE
<a href="#">International Relations and Global Governance</a>	Periode 1	6.0	S_IRGG
<a href="#">State, Power and Conflict</a>	Periode 1	6.0	S_SPC

## Minor Filosofie

Vakken:

Naam	Periode	Credits	Code
Ethiek I	Periode 2	6.0	W_BA_ETH1
Kopstukken I	Periode 1	6.0	W_BA_KOPI
Kopstukken II	Periode 2+3	6.0	W_BA_KOPII
Philosophy of Mind	Periode 1	6.0	W_BA_PHOM
Wetenschapsfilosofie	Periode 2+3	6.0	W_BA_MWET

## Derde jaar Econometrie en Operationele Research – These

Vakken:

Naam	Periode	Credits	Code
Thesis	Ac. Jaar (september)	12.0	E_EOR3_THS

## Overgangsregeling voor curriculumwijzigingen

### OVERGANGSREGELING 2016-2017 CURRICULUMVAKKEN DERDE JAAR 2015-2016

In september 2014 is het bachelorprogramma Econometrie en Operationele Research met een nieuw curriculum gestart. Het nieuwe derde jaar start voor het eerst in september 2016. Om die reden heeft het faculteitsbestuur conform het examenreglement en in overleg met de opleidingsdirecteuren, examencommissie en de medezeggenschap een overgangsregeling vastgesteld voor studenten die één of meer vakken uit het oude derdejaars curriculum niet hebben gehaald. De regeling bestaat uit 3 delen, (1) verplichte vakken, (2) keuzevakken en (3) ingangseisen master. Een overzicht van de overgangsregelingen kun je vinden op de voorpagina van deze studiegids (<http://www.vu.nl/nl/studiegids/2016-2017/bachelor/c-f/econometrie-operationele-research/index.aspx>).

### OVERGANGSREGELING 2016-2017 CURRICULUMVAKKEN TWEEDE JAAR 2014-2015 EN EERDER

Wat betreft de vakken in het tweede jaar van het oude curriculum: Een overzicht van vervangende vakken is ook op de voorpagina van deze studiegids te vinden.

## Honours programme

The Honours programme offers several advantages to our students. Only a select group of motivated, talented students can participate in the programme. Students participating in the VU Honours programme come from different faculties, thus broadening your academic horizon through interdisciplinary class discussions and team work. The programme draws upon the expertise of our top faculty members. Special courses are developed, that are only accessible to Honours students. These courses are characterized by small classes (not more than 20 students) and a high degree of teacher-student interaction. Every year honour students of our faculty visit the prestigious Netherlands-Asia Honours Summerschool ([www.nahss.nl](http://www.nahss.nl)), which also counts as one honours course.

In the second half of your first year, you already get an opportunity to get acquainted with this programme. Exact details of the enrolment procedure will be provided later, but it is expected to start near the end of period 2.

Upon successfully completing the programme, you receive a special BSc diploma, stating that you have participated in the VU Honours programme and have completed your BSc degree within three years with an increased study load of 30 EC. A successful completion of the Honours programme also increases your future opportunities for follow-up studies, e.g., your chances to enter one of our top international research master programmes (MPhil), possibly leading to a future PhD.

The VU Honours programme comprises at least 30 EC on top of your regular BSc programme. Most Honours courses are 6 EC and an odd few 12 EC. These courses are spread out over year 2 and 3 of your Bachelor. Most Honours students follow 5 courses of 6 EC, but you may take more. The programme is taught in English.

## STRUCTURE AND FINAL ATTAINMENT LEVEL

The faculty's implementation of the VU Honours programme has three components.

- Out of the 30 EC, 2 HP courses of 6 EC each (or one of 12 EC) are taken from an interdisciplinary menu of courses. This broadens your academic horizon beyond that of economics and business research and allows you to interact with Honours students with a variety of academic backgrounds.
- Out of the 30 EC, 2 HP course of 6 EC have to be taken from the courses offered by the Faculty of Economics and Business Administration. These courses are specially developed for the Honours programme and treat more advanced issues in economics and business research.
- The final 6 EC of the 30 EC is an elective that can be either taken from the interdisciplinary course menu, the faculty's course menu or the course menus of other faculties participating in the VU Honours programme. You can also use this course for a tutored research project, called a research assentship (RA) that counts for 6 EC, possibly combined with an extended BSc thesis. It allows you to build on your skills developed during the programme and build your BSc thesis into a more complete research experience.

The Honours programme is a challenging programme for talented students. Therefore, you should be able to complete the additional 30 EC load of the Honours programme

- in the same nominal time as the regular BSc programme, which is three years, and
- with a grade average of 7.5 for all courses of your bachelor (excluding Honours courses).

Only in very specific circumstances the examination board can grant you a delay in completing the Honours programme. You can request this only by sending a motivated email to the examination board.

## APPLICATION TO THE VU HONOURS PROGRAMME

If you are motivated to participate in this programme and you feel you

are qualified, then you can register for enrolment by filling out the application form before May 1 of your first year. You may find the application form at:

[www.feweb.vu.nl](http://www.feweb.vu.nl) > Onderwijs > Bacheloropleidingen > Honours programme,  
or  
[www.feweb.vu.nl/en](http://www.feweb.vu.nl/en) > Education > Bachelor's programmes > Honours programme.

Your application has to include the following material:

- a letter of motivation directed to the coordinator of the FEWEB Honours Programme commission Dr. Harold Houba
- your resume,
- list of grades and the grade average of all courses passed so far.

Your letter of motivation should be written in English, should be no more than 1.5 pages (A4) and should contain the following information:

- motivation for current studies.
- motivation for participation in the Honours Programme.
- what Honours courses of the VU Honours Programme arouse your interests,
- what you hope to achieve by participating in the Honours Programme.
- why you think you can complete the Honours Programme successfully. In this respect, take also into account any other plans you might have beside your studies, such as studying abroad for a while or participation in the board of a student society, etc.

On basis of the material received, the selection board will conditionally admit the best students. The faculty aims at the top 5-10% of students. Final selection takes place when all grades for all first-year courses have been published, which is typically the end of August. The admittance criterium is: all first-year courses passed with a grade average of at least 7.5 (subject to exceptions) .

## ADDITIONAL INFORMATION

If you have further questions with respect to the VU Honours programme or the enrolment procedure, you can mail to [Honoursprogramma.feweb@vu.nl](mailto:Honoursprogramma.feweb@vu.nl).

Opleidingsdelen:

- [FEWEB Honours Courses](#)
- [Interdepartmental Honours Courses](#)

## FEWEB Honours Courses

Below are the FEWEB Honours Courses. Choose 2 or 3 courses.

The courses Economics of Globalization: A Transaction Cost Perspective, and Contemporary Challenges in Corporate Strategy will not be lectured in 2016-2017.

Vakken:

Naam	Periode	Credits	Code
------	---------	---------	------

<a href="#">Behavioral Game Theory</a>	Periode 2	6.0	E_HP2_BGT
<a href="#">Bubbles and Crashes</a>	Periode 5	6.0	E_HP1_BC
<a href="#">Research Assistantship Honours Course</a>	Ac. Jaar (september)	6.0	E_HP2_RASS

## Interdepartmental Honours Courses

De interdisciplinaire honours vakken worden gegeven door docenten van de VU, de UvA, het AUC en door (internationale) gastdocenten. De groepen zijn klein en je wordt geacht presentaties te geven, papers te schrijven en een actieve bijdrage te leveren aan de discussies. Je kunt een overzicht van de interdisciplinaire vakken en een inschrijfformulier vinden op:

<http://www.vu.nl/honourscourses>

The interdisciplinary components of the Honours Programme are taught mainly in the evening by lecturers from Vrije Universiteit, the University of Amsterdam and Amsterdam University College, as well as guest lecturers from the Netherlands and abroad. The classes are small and you will be expected to give presentations, write papers and make an active contribution to discussions. You can find an overview of the interdepartmental honours courses, as well as an application form at:

<http://www.vu.nl/honourscourses>

## Bachelor Econometrie en Operationele Research - Algemene Informatie

Opleidingsdelen:

- [Missie, kernaspecten en eindtermen](#)
- [Intekenen vakken en tentamens](#)
- [Werkvormen](#)
- [Toetsing](#)
- [Verder studeren](#)
- [Extra cursussen voor toelating tot een van de Masteropleidingen van FEWEB](#)

### Missie, kernaspecten en eindtermen

De doelstellingen en eindkwalificaties van de opleiding zijn in landelijk overleg tot stand gekomen. In de eindkwalificaties wordt omschreven dat de afgestudeerde bachelorstudent in de Econometrie en Operationele Research:

- 1) De student is vertrouwd met het gebruik van computers, waaronder kennis van een hogere programmeertaal en kennis van enkele wiskundige/econometrische softwarepakketten.
- 2) De student heeft een eerste kennismaking gehad met het zelfstandig bestuderen van vakliteratuur en met onderzoeksvaardigheden op het gebied van de econometrie en heeft daarvan een proeve van bekwaamheid afgelegd.
- 3) De student bezit een gedegen basiskennis van de wiskunde en statistiek.
- 4) De student heeft een grondige kennis van de drie kerngebieden van de econometrie: de besliskunde, wiskundige economie en econometrie, toereikend om met succes een masteropleiding in de Econometrie & Operationele Research of een aanverwante richting te kunnen volgen.
- 5) De student kan (bedrijfs)economische problemen modelleren en met



methoden uit de wiskunde en statistiek analyseren. De student is zich bewust is van de mogelijkheden op de arbeidsmarkt na afsluiting van de studie met een bachelordiploma.

6) De student werkt in teamverband en bezit goede schriftelijke en mondelinge communicatievaardigheden.

7) De student heeft inzicht in de samenhang van de wetenschappen en is zich bewust van de rol van het vakgebied in andere wetenschapsgebieden zoals de economie, en in de maatschappij.

8) De student heeft voldoende inzicht in de diverse specialismen om een verantwoorde keuze te kunnen maken uit de kwantitatieve vervolgopleidingen.

## Intekenen vakken en tentamens

Om vakken te kunnen volgen en tentamens te kunnen afleggen, moet je je inschrijven op Vunet.

## Werkvormen

Voor de wiskunde- en informaticavakken, die door de divisie Wiskunde en Informatica van de Faculteit der Exacte Wetenschappen worden aangeboden, de economie- en bedrijfskundevakken, die door de opleidingen Economie en bedrijfseconomie en Bedrijfskunde worden verzorgd, worden de aldaar gebruikte werkvormen gevolgd. De divisie Wiskunde en Informatica geeft gedurende een onderwijsperiode van acht weken de eerste zeven weken hoor- en werkcollege. De opleidingen Economie en bedrijfseconomie en Bedrijfskunde geven gedurende een dergelijk onderwijsblok de eerste zes weken college. Allen bieden activerende werkvormen aan die soms verplicht zijn. Zie voor meer informatie de vakbeschrijvingen.

Voor haar 'eigen' vakken volgt de opleiding Econometrie en Operationele Research het schema van de opleidingen Economie en bedrijfseconomie en Bedrijfskunde. Voor deze vakken kan het college bestaan uit een geïntegreerd hoor/werkcollege van 4 uur per week (per vak) of een hoorcollege en een werkcollege van elk 2 uur per week per vak.

Het aantal contacturen in de onderwijsperiodes bedraagt tussen de 12 en 18 uur per week met uitzondering van de eerste twee perioden van het eerste studiejaar waar er 22 contacturen per week zijn. Bij de door de opleiding Econometrie en OR aangeboden vakken worden individuele opdrachten/werkstukken verplicht gesteld. Met uitzondering van de Integrative Practical en de Advanced Practical wordt het cijfer van een vak uitsluitend doormiddel van schriftelijke tentamens bepaald. Cijferbepalende werkstukken worden beperkt tot de twee practicals in het tweede jaar.

### De Practical

Belangrijke elementen van het programma zijn de practicals. Deze vinden plaats in het tweede jaar in januari en in juni. In de practicals werk je in groepjes studenten aan een werkstuk. Het doel van de practicals is om je al vroeg in de opleiding bezig te laten zijn met het verwerken en toepassen van de theorie uit de hoorcolleges en je daarbij de benodigde vaardigheden (ICT, presentatie) aan te leren. Ook wordt er op deze wijze aandacht besteed aan de samenhang tussen de vakken.

## Toetsing

De stof die behandeld is in de colleges, wordt schriftelijk getentamineerd. De tentamens kunnen uit zowel open vragen als meerkeuzevragen bestaan. Soms is je tentamencijfer meteen je eindcijfer, soms wordt dit eerst gemiddeld met één of meer opdrachten die je tijdens de colleges hebt moeten maken. De weging van deze onderdelen kan verschillen, dit wordt beschreven in de studiewijzers (ook wel course manuals genoemd). Ook kan het zijn dat er een programmaonderdeel is veranderd en er een overgangsregeling van kracht is. Kijk op VUnet voor meer informatie.

## Verder studeren

### MASTEROPLEIDINGEN

Na de Bacheloropleiding kun je je verder specialiseren in een Masteropleiding. De Masteropleiding is een wetenschappelijke opleiding, waarbij niet alleen het doen van onderzoek, maar ook de toepassing van de wetenschap centraal staat. Zo neemt in alle Masteropleidingen van onze faculteit het zelfstandig opzetten en uitvoeren van wetenschappelijk onderzoek een belangrijke plaats in. Daarnaast wordt er ook veel met cases gewerkt. Alle Masters zijn Engelstalig.

Onderstaand de ingangseisen voor studenten met een FEWEB-Bacheloropleiding Econometrie en Operationele Research voor toelating tot een masteropleiding van FEWEB

#### MSc ACCOUNTING AND CONTROL (\*1)

Accounting II (E\_EBE2\_ACC2)  
Accounting Information Systems (E\_EBE3\_ACIS)  
Auditing (E\_EBE3\_AUD)  
Een keuze tussen:  
- Corporate Finance (E\_EBE2\_CF)  
- Finance II (E\_EBE2\_FINA2)  
Aanbevolen:  
Financial Accounting (E\_EBE2\_FAC)  
Management Accounting (E\_EBE2\_MANAC)

#### MSc BUSINESS ADMINISTRATION

Ingangseisen verschillen per specialisatie

#### MSc BUSINESS ADMINISTRATION – FINANCIAL MANAGEMENT

Finance II (E\_EBE2\_FINA2)  
Een keuze tussen:  
- Financial Markets & Institutions (E\_EBE3\_FMI )  
- International Financial Management (E\_IBK3\_IFM)

#### MSc BUSINESS ADMINISTRATION – DUISENBERG HONOURSPROGRAMME FINANCIAL MARKETS AND REGULATION

Finance II (E\_EBE2\_FINA2)  
Een keuze tussen:  
- Financial Markets & Institutions (E\_EBE3\_FMI )

- International Financial Management (E\_IBK3\_IFM)

En:

1. Outstanding performance in the completed preceding bachelor programme.
2. You also have to send a Motivation letter and resume with your application before 15 June to [toelating.feweb@vu.nl](mailto:toelating.feweb@vu.nl)

#### MSc BUSINESS ADMINISTRATION – HUMAN RESOURCE MANAGEMENT

Contemporary Perspectives on OB: Leading Change (E\_IBK3\_CPOB)  
Contemporary Perspectives on HRM Theory (E\_IBK3\_CPHRM)

#### MSc BUSINESS ADMINISTRATION – INFORMATION AND KNOWLEDGE MANAGEMENT

Business Intelligence and Analytics (E\_IBK3\_BIA)  
Knowledge Management (E\_IBK3\_KM)

#### MSc BUSINESS ADMINISTRATION – MANAGEMENT CONSULTING

Foundations of Strategic Management (E\_IBK3\_FSM)  
Debates in Consulting Research (E\_IBK3\_DCR)

#### MSc BUSINESS ADMINISTRATION – STRATEGY AND ORGANIZATION

Foundations of Strategic Management (E\_IBK3\_FSM)  
Strategic Management from a Practice Perspective (E\_IBK3\_SMPP)

#### MSc BUSINESS ADMINISTRATION – TRANSPORT AND SUPPLY CHAIN MANAGEMENT

Managing and Improving Quality (E\_IBK3\_MIQ)  
Procurement and Supply Management (E\_IBK3\_PSM)

#### MSc BUSINESS IN SOCIETY (Two year Joint Research Master's programme)

1. Outstanding performance in the completed preceding bachelor programme and interest in scientific research
2. Deadline for application is 1 June, you can find a list of all criteria at the website of the UvA.

#### MSc ECONOMETRICS AND OPERATIONS RESEARCH

MSc ECONOMETRICS AND OPERATIONS RESEARCH -- specialization Econometrics and Mathematical Economics

Econometrics I (E\_EOR2\_TR1)  
Econometrics II (E\_EOR2\_TR2)

MSc ECONOMETRICS AND OPERATIONS RESEARCH -- specialization Operations Research

Aanbevolen:  
Operations Research III (E\_EOR3\_OR3)

#### MSc ECONOMICS

Macroeconomics II (E\_EBE2\_MACEC)  
Microeconomics II (E\_EBE2\_MICEC)  
Aanbevolen:  
Industrial Organization (E\_EBE3\_IO)

En een keuze tussen:

- Inclusive Growth and Sustainability (E\_EBE3\_IGS)
- of
- Human Capital Across the Life Cycle (E\_EBE3\_HCALC)

MSc ENTREPRENEURSHIP (Joint programme)

Foundations of Strategic Management (E\_IBK3\_FSM)  
Contemporary Perspectives on OB: Leading Change (E\_IBK3\_CPOB)  
Aanbevolen:  
Small Business Development (E\_IBK3\_SBD)

MSc FINANCE

Finance II (E\_EBE2\_FINA2)  
Corporate Finance (E\_EBE2\_CF)  
Financial Markets and Institutions (E\_EBE3\_FMI)  
Investments (E\_EBE3\_INVES)

MSc DUISENBERG HONOURS PROGRAMME QUANTITATIVE RISK MANAGEMENT

Investments (E\_EBE3\_INVES)

Selectie voor deze master gebeurt op basis van motivatiebrief, cijfers en affiniteit met Finance. Motivatiebrief, CV en bachelorthesis moeten meegestuurd worden met aanmelding, voor 1 mei naar [toelating.feweb@vu.nl](mailto:toelating.feweb@vu.nl)

MSc MARKETING

Consumer Behavior (E\_EBE3\_CBEH)  
Value Based Marketing (E\_EBE2\_VBM)

MSc SPATIAL, TRANSPORT AND ENVIRONMENTAL ECONOMICS

Micro Economics II (E\_EBE2\_MICED)

MSc PHILOSOPHY (tweejarige researchmaster)

Belangstelling wetenschappelijk onderzoek  
Goede resultaten

(\*1) Studenten die na de MSc Accounting en Control zonder deficiënties willen doorstromen naar de Post Graduate opleiding Accountancy dienen de keuzevakken Accounting & IT Systems I (E\_EBE3\_AIT1) en II (E\_EBE3\_AIT2) (12 ECTS, periode 1 en 2) en Tax and Organizations (E\_EBE3\_TO) (6 ECTS, periode 3) uit de minor Accounting, Organizations and Society te behalen.

Het keuzevak Corporate Finance wordt als voorkennis vereist bij het keuzevak Advanced Corporate Finance 4.2 (onderdeel van de MSc Accounting and Control, variant Controlling).

POSTGRADUATE OPLEIDINGEN

De opleidingen Certified Management Accountant, Certified Financial Manager en Chartered Financial Analyst zijn ook toegankelijk met een afgeronde Bacheloropleiding Bedrijfskunde.

Na afronding van een van de masteropleidingen is het mogelijk deze te vervolgen met een postgraduateopleiding. In een postgraduateopleiding vindt verdere specialisatie plaats en word je opgeleid voor een bepaald beroep, zoals registeraccountant of controller. De toelating tot een postgraduateopleiding is afhankelijk van de gevolgde masteropleiding.

Kijk voor meer informatie op: [www.feweb.vu.nl](http://www.feweb.vu.nl) > Onderwijs > Postgraduate opleidingen.

## Extra cursussen voor toelating tot een van de Masteropleidingen van FEWEB

Voor de meeste masters geldt dat je binnen je bachelor de specialisatie of track kunt volgen in die richting en dan direct kunt doorstromen naar die master. In sommige gevallen is dit echter niet mogelijk en zul je extra vakken bovenop je bachelorprogramma moeten volgen voor toelating. Kijk in de paragraaf "Verder studeren" voor een overzicht met alle ingangseisen voor de masters binnen FEWEB.

In onderstaande lijst staan alle vakken die niet binnen je curriculum vallen. Mocht je een van onderstaande vakken moeten volgen om toegelaten te kunnen worden tot je gewenste masteropleiding, dan kun je hiervoor op de gebruikelijke manier intekenen via de intekenemodule in VUnet.

Vakken:

Naam	Periode	Credits	Code
<a href="#">Business Intelligence and Analytics</a>	Periode 4	6.0	E_IBK3_BIA
<a href="#">Contemporary Perspectives on HRM Theory</a>	Periode 5	6.0	E_IBK3_CPHRM
<a href="#">Contemporary Perspectives on OB: Leading Change</a>	Periode 4	6.0	E_IBK3_CPOB
<a href="#">Debates in Consulting Research</a>	Periode 5	6.0	E_IBK3_DCR
<a href="#">Financial Accounting</a>	Periode 4	6.0	E_EBE2_FAC
<a href="#">Foundations of Strategic Management</a>	Periode 4	6.0	E_IBK3_FSM
<a href="#">Knowledge Management</a>	Periode 5	6.0	E_IBK3_KM
<a href="#">Macroeconomics II</a>	Periode 1	6.0	E_EBE2_MACEC
<a href="#">Management Accounting</a>	Periode 5	6.0	E_EBE2_MANAC
<a href="#">Managing and Improving Quality</a>	Periode 5	6.0	E_IBK3_MIQ
<a href="#">Microeconomics II</a>	Periode 4	6.0	E_EBE2_MICEC
<a href="#">Procurement and Supply Management</a>	Periode 4	6.0	E_IBK3_PSM
<a href="#">Small Business Development</a>	Periode 5	6.0	E_IBK3_SBD
<a href="#">Strategic management from a practice perspective: A day in the life of a CEO</a>	Periode 5	6.0	E_IBK3_SMPP

## Academic Skills: Probability and Inference

<b>Vakcode</b>	E_EOR1_ACSK ()
<b>Periode</b>	Periode 6
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. C.S. Bos
<b>Examinator</b>	dr. C.S. Bos
<b>Docent(en)</b>	dr. C.S. Bos, dr. L.F. Hoogerheide, dr. F. Blasques Albergaria Amaral
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	100

### Doel vak

Contemplate the links between notions of probability and inference.  
Stimulate thinking of economic data as realization of random variables.  
Learn how to make use of the information contained in the data. Practice how to implement tests and simulations using matrix-oriented software.  
Study how to present results.

### Inhoud vak

- Practice implementing exercises in software in a matrix-oriented environment (mainly Ox, with attention to Python and/or other languages)
- Think about presentation in writing and wording: What is important for audience, what does it mean to be complete, clear, concise, and academic?
- Revisit the notions of conditional density and conditional expectation and explore their role in inference.
- Revisit the Law of Large Numbers (LLN) and the Central Limit Theorem (CLT) and explore their role in approximate inference.
- Understand the role of the random sample assumption in the LLN and CLT, and discuss its adequacy in economics.
- Explore relationships between random variables.

### Onderwijsvorm

Lectures, practicals, question hours

### Toetsvorm

Assignments, presentation.  
The final grade will only be granted if the conditions of Colloquium II are met.

### Literatuur

Slides and relevant articles

### Aanbevolen voorkennis

Knowledge of analysis, probability theory and statistics at the first year bachelor level.

## Accounting and IT Systems I

<b>Vakcode</b>	E_EBE3_AIT1 ()
----------------	----------------

<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. J.G.I. van den Belt RA
<b>Examinator</b>	drs. J.G.I. van den Belt RA
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	200

### Doel vak

Knowledge:

Students are able to translate a situation from the fields of financial accounting, management accounting or tax into the book-keeping of a company. In other words: learn to think in journal entries.

Bridging theory and practice:

Students will learn the consequences in the book-keeping of decisions that are taken in the organization, but also how information from the book-keeping supports management with decision taking.

### Inhoud vak

For the basic functions in an organization as well as for some advanced themes consequences in the book-keeping are taught. After the basic concepts of the system of book-keeping are discussed (or refreshed) journal entries of typical processes that exist with a service, trade and production organization are taught. Next, the representation of some general items in the books of a company is discussed, among others: reporting principles; provisions; fiscal versus commercial valuation and mergers and consolidation.

### Onderwijsvorm

Lectures.

Tutorials.

### Toetsvorm

Written exam – Individual assessment.

Interim Assignments – Individual assessment.

### Literatuur

Bouwer, H.J., Emmerson, M. and M.B.J. Schauten (2013). Basics of bookkeeping, Noordhoff Uitgevers, Groningen/Houten, ISBN 978-90-01-83284-1, 1-220.

Additional reading will be announced on Blackboard.

### Vereiste voorkennis

Basic theory of book-keeping.

## Accounting and IT Systems II

<b>Vakcode</b>	E_EBE3_AIT2 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels

<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. J.G.I. van den Belt RA
<b>Examinator</b>	drs. J.G.I. van den Belt RA
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	200

### **Doel vak**

The goal of this course is to give insight into the consequences of acquiring an ERP-system as well as working with an ERP-system.

#### Knowledge:

Research on the factors that influence the success of acquisition and implementation of an ERP-system as well as the realization of a business case is discussed. Practical knowledge about the ERP-system SAP will be gained.

#### Bridging theory and practice:

Themes that were learned in the Accounting-part of this course will be brought into practice with the application SAP.

#### Quantitative skills:

Realization of purchases, production and sales in a company is analyzed a.o. by comparison with planned figures and reported to management.

### **Inhoud vak**

The theoretical part starts with some basic concepts of automation in a company followed by the acquisition, implementation, operation and management of an ERP-system from a practical as well as an academic point of view. Attention is given to the influence of an ERP-system on business and administrative processes.

In the practical part a business is set up in SAP and a purchase, production and sales process is simulated resulting in management reports about the performance of the company.

### **Onderwijsvorm**

Lectures.  
Tutorials.

### **Toetsvorm**

Written exam – Individual assessment.  
Case – Individual assessment.

### **Literatuur**

Laudon & Laudon - Management Information Systems, Managing the digital firm, Gloabal Edition, isbn 1397812920940

D.J. Schenk, C.T. Draijer – Hands-on with SAP ERP and IDES, isbn 9781783654529 (free download from Bookboon)

VU-Syllabus (published on Blackboard)

Academic papers (published on Blackboard)

Details will be announced on Blackboard.



## Aanbevolen voorkennis

Accounting and IT Systems I.

# Accounting Information Systems

<b>Vakcode</b>	E_EBE3_ACIS ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. J.B.T. Bergsma RA
<b>Examinator</b>	drs. J.B.T. Bergsma RA
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

## Doel vak

Tijdens dit vak worden de belangrijkste bestuurlijke informatievoorziening (BIV)-concepten in het hoorcollege behandeld en aan de hand van praktijkvoorbeelden toegelicht (Vakkennis). Vervolgens moet je daar zelf in de werkcolleges mee aan de gang door cases te maken voor verschillende soorten processen. Voor de ondernemingen in deze cases moet je een informatiesysteem ontwerpen afgestemd op de risico's en informatiebehoeften (Academische vaardigheden, Onderzoeksvaardigheden). De cases zijn representatief voor situaties die je later in de praktijk als accountant of controller ook kunt tegenkomen en geven je ook een beter begrip van de oorzaken van het ontstaan van de tegenwoordige boekhoudschandalen (Link met de praktijk, Algemene ontwikkeling).

Na afloop van het vak Accounting Information Systems ben je in staat:

- om een contingentiebenadering toe te passen voor het inrichten van een beheersings- en betrouwbaarheidssysteem en bij het bepalen van de managementinformatie;
- om de belangrijkste betrouwbaarheids- en beheersingsrisico's en informatiebehoeften te bepalen voor het inkoop-, crediteuren-, opslag-, productie- personeels-, verkoop- en debiteurenproces samen met handels-, productie- en dienstverleningsbedrijven;
- te beschrijven wat de functie is van de belangrijkste modellen en concepten die bij het vakgebied bestuurlijke informatieverzorging een rol spelen;
- voor organisaties die je in de praktijk tegenkomt de belangrijkste risico's aan te geven, de hoofdlijnen van de interne controle te beschrijven en procesbeschrijvingen te maken;
- kort aan te geven wat de gevolgen van algemeen maatschappelijke ontwikkelingen zoals corporate governance, duurzaamheid, ICT-techniek zijn voor de inrichting van de bestuurlijke informatieverzorging.

## Inhoud vak

Voor het nemen van beslissingen en het beheersen van organisaties hebben managers informatie nodig. Het vakgebied Accounting Information Systems (in het Nederlands bestuurlijke informatieverzorging genoemd) wordt omschreven als "alle activiteiten met betrekking tot het systematisch verzamelen, vastleggen en verwerken van gegevens gericht op het verstrekken van informatie ten behoeve van het nemen van beslissingen,

het doen functioneren, het beheersen en het afleggen van verantwoording". Het vakgebied Accounting Information Systems legt daarmee de basis voor allerlei informatie over kosten en opbrengsten die de controller nodig heeft om calculaties te maken, interne rapportages voor de directie te maken en de externe jaarrekening voor de aandeelhouders op te stellen.

### Onderwijsvorm

Hoorcolleges  
Werkcolleges.

### Toetsvorm

Schriftelijk tentamen met mc en open vragen – individuele beoordeling (20%)  
Cases - groepsbeoordeling (20%).

### Literatuur

- Oscar van Leeuwen en Jon Bergsma, Bestuurlijke Informatieverzorging in perspectief. Relevante en betrouwbare informatie voor sturing en beheersing. Meest recente druk.
- Starreveld, Van Leeuwen en Van Nimwegen, Bestuurlijke informatieverzorging. Deel 2A: Toepassingen. Fasen van de waardekringloop. Meest recente druk. Groningen/Houten: Stenfert Kroese, ISBN 90 2073053 3.
- Bodnar, G.H. en W.S. Hopwood. Accounting Information Systems. Meest recente editie. Pearson Prentice Hall

### Vereiste voorkennis

Geen.

## Advanced Practical

<b>Vakcode</b>	E_EOR2_ADVP ()
<b>Periode</b>	Periode 6
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. A.A.N. Ridder
<b>Examinator</b>	dr. A.A.N. Ridder
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

The goal is that students learn how to work in a team on a real EOR project with realistic data. This means that they learn how to describe the case in ordinary language, how to formulate it in EOR language, discuss what EOR techniques might be applicable to solve the problem, and learn to work it out using the acquired skills and knowledge of the first two years of the EOR program. Furthermore, the goal is to learn how to report and present intermediate and final results of a project.

### Inhoud vak

In this course students work in teams of two or three on a practical project involving one of the three specialisations of the curriculum (these are Econometrics, Mathematical Economics, and Operations

Research). The participants register via Blackboard for the specialisation of their preference conditionally to some constraints: 1. they need to be qualified (see below); 2. there is a limited capacity in each specialisation. You are qualified to participate in this course when you (a) have completed successfully the 1-st year program; and (b) have sufficient grades for all courses in the Fall Semester of the 2-nd year program (Num. Meth; Ect I, ME I, OR I). Furthermore, to qualify for registration for a project in specialisation X, you need to have completed the X II course.

The projects will be provided by the EOR professors, although participants might suggest projects by themselves. The first week is intended to form the teams, to introduce the projects, to discuss the required literature, to suggest where to find the data, etc. In weeks 2 and 3 there will be meetings to report the progress, to discuss difficulties, to comment on the work, etc. The final report is written in week 4. All presentations will be given in week 5.

### Onderwijsvorm

Working teams of two or three students. Weekly seminars.

### Toetsvorm

Presentation and written report.

### Vereiste voorkennis

(a) Year 1 of EOR program. (b) All courses of periods 2.1, and 2.2. (c) Course X-II for specialisation X.

## Advanced Programming

<b>Vakcode</b>	X_400561 (400561)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	ir. M.P.H. Huntjens
<b>Examinator</b>	ir. M.P.H. Huntjens
<b>Docent(en)</b>	ir. M.P.H. Huntjens
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

To learn advanced programming skills, to get to know and understand advanced programming concepts like inheritance and to get experience with programming some of the data structures that were taught in the course Data Structures & Algorithms.

### Inhoud vak

abstract data types (ADT's), exceptions, inheritance, interfaces, modifiers, polymorfisme, marker interfaces, wrapper classes, Javadoc, super, this, instanceof, copy constructor, from class Object: clone(), equals() and toString(), auto (un)boxing, generic classes, command line arguments, iterators, interface Iterable, for-each statement, methods with a variable number of parameters, implementation of: list and binary search tree, EBNF, parsing when EBNF of input is given, from API:

ArrayList

**Onderwijsvorm**

lectures and practicals

**Toetsvorm**

practical

**Literatuur**

Absolute Java, Walter Savitch, Pearson International Edition, Fifth International Edition, ISBN: 978-0-273-76479-3.

**Vereiste voorkennis**

Practical of Programming (X\_400554)

**Doelgroep**

2CS, 2BA, 3ECTR

**Overige informatie**

Via VUnet en BB

## Algebraische topologie

<b>Vakcode</b>	X_400482 (400482)
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. D.R.A.W. Notbohm
<b>Examinator</b>	dr. D.R.A.W. Notbohm
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

**Doel vak**

Students should become familiar with basic concepts of Algebraic Topology and learn how to translate geometric questions into algebra.

**Inhoud vak**

- fundamental groups of spaces;
- covering spaces;
- decktransformations;
- homology groups of spaces;
- Eilenberg Steenrod axioms;
- CW-complexes;
- applications such as Brouwer's fixed point theorem, the ham-sandwich theorem, and/or the hairy dog theorem and/or Jordan's curve theorem

**Onderwijsvorm**

Lectures and problem classes

**Toetsvorm**

Oral or written examination 75%, weekly exercises 25%

**Literatuur**

Glen E. Bredon, Topology and Geometry, Springer verlag.

E.Looijenga, Algebraic Topology 2010, Lecture Notes

A.Hatcher, Algebraic Topology, Cambridge University Press

**Aanbevolen voorkennis**

Topologie (X\_400416), Ringen en Lichamen (X\_400630)

**Doelgroep**

3W, mMath

**Algorithm Engineering**

<b>Vakcode</b>	XB_400620 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	prof. dr. G.W. Klau
<b>Examinator</b>	prof. dr. G.W. Klau
<b>Docent(en)</b>	prof. dr. G.W. Klau
<b>Lesmethode(n)</b>	Hoorcollege, Practicum, Onderwijs

**Doel vak**

"In theory, there is no difference between theory and practice. In practice, there is."

Algorithms are at the core of every computer application. Traditionally, the emphasis in algorithms research has been on the theory behind efficient algorithms. While this has had profound impact in many application areas, the step from theoretically efficient algorithms to effective practical solutions is far from trivial. Algorithm Engineering is a new paradigm that unifies the design, analysis, implementation and experimental evaluation of practical algorithms. Its aim is to bridge the gap between algorithmic theory and the software tools running on modern computers. This is achieved by combining traditional theoretical methods with realistic models for both application-specific problems and computer hardware. Success stories of good Algorithm Engineering practice exist in many fields of economy, technology and science and include the development of the Google search engine, route planning algorithms in navigation devices and the assembly of the human genome.

**Inhoud vak**

This course will introduce the basic Algorithm Engineering principles and illustrate the power of practice-oriented algorithm design by means of several examples from different applications including Google's pagerank algorithm, clustering in data analysis and network modules in bioinformatics.

**Onderwijsvorm**

Lectures, theoretical and practical exercises, and final project.

**Toetsvorm**

Written exam, grading of exercises and project.

**Literatuur**

There is no book (yet) on Algorithm Engineering. The literature consists of a collection of scientific papers, which will be provided for the participants.

**Vereiste voorkennis**

Algorithms and Data Structures

**Doelgroep**

Computer Science students

**Analyselab**

<b>Vakcode</b>	S_AL ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. E.J. van Ingen
<b>Examinator</b>	dr. E.J. van Ingen
<b>Docent(en)</b>	dr. E.J. van Ingen
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep, Practicum
<b>Niveau</b>	300

**Doel vak**

Na afloop van deze cursus kan de student:

- vanuit een gegeven inhoudelijk probleem hypothesen opstellen en toetsen;
- gangbare analysetechnieken in netwerkonderzoek toepassen;
- resultaten interpreteren en onderzoeksbevindingen duidelijk rapporteren.

**Inhoud vak**

Het Analyselab is een intensieve afsluiting van de minor 'Netwerken in de Informatiesamenleving' waar de analyse van sociale netwerken centraal staat. Tijdens de vakken is al geoefend met netwerkanalyse. In het analyselab werken studenten (grotendeels in groepjes) vier volle weken aan de analyse van diverse voor de minor geschikte soorten netwerkdata m.b.v. netwerkanalyse software. Na een korte theoretische inleiding worden onder begeleiding de benodigde analysetechnieken geleerd en toegepast en wordt verslag gelegd van de resultaten en waar nodig onderbouwd met netwerkwisualisaties. Vanwege de wisselwerking tussen theorie en inhoud aan de ene kant en de analyse van netwerkdata aan de andere kant, worden de werkgroepbijeenkomsten en practica ook deels als hoorcollege ingericht.

**Onderwijsvorm**

Hoorcollege, werkgroep en practicum.

**Toetsvorm**

Tijdens de werkcolleges wordt een streng schema van deadlines gehanteerd. Aanwezigheid tijdens de bijeenkomsten is verplicht. Als participatie en presentatie als voldoende worden beoordeeld wordt het eindcijfer bepaald door het gewogen cijfer van de werkgroep- en practicumopdrachten.

### Literatuur

- Wordt van tevoren via Blackboard bekend gemaakt.

### Vereiste voorkennis

Deelname aan de vier inhoudelijke vakken van de minor 'Netwerken in de informatiesamenleving' is voorwaardelijk voor deelname aan het analyselab.

### Aanbevolen voorkennis

Basale kennis over methodologie en statistiek wordt verwacht.

### Doelgroep

Studenten Minor "Netwerken in de informatiemaatschappij" (bachelor)

## Analysis I

<b>Vakcode</b>	X_400641 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. ir. R.F. Swarttouw
<b>Examinator</b>	dr. ir. R.F. Swarttouw
<b>Docent(en)</b>	dr. ir. R.F. Swarttouw
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	100

### Doel vak

De student wordt ingeleid in de wiskundige analyse zoals deze voor latere econometrie vakken nodig zal zijn. Hij/zij raakt bekend met rijen, functies van één veranderlijke en basisbegrippen als limiet, continuïteit, differentieerbaarheid en integreerbaarheid. Er is aandacht voor wiskundige stellingen en hoe die formeel bewezen kunnen worden. Daarnaast wordt de student een groot aantal calculus-technieken bijgebracht, waarmee wiskundige berekeningen over bovengenoemde begrippen kunnen worden gemaakt.

### Inhoud vak

Gedurende de cursus wordt de wiskundige analyse stap voor stap opgebouwd. Daarbij is er naast aandacht voor de stellingen en hun bewijzen voldoende ruimte voor het aanleren van en het oefenen met allerlei calculus-technieken. Een keuze wordt gemaakt uit de onderwerpen van de eerste zes hoofdstukken van het boek van Kosmala, te weten

- Natuurlijke getallen en volledige inductie
- Rationele en reële getallen en de volledigheid van de reële getallen
- Rij
- Continuïteit en limieten van functies
- Differentieerbaarheid en de middelwaardstelling
- Riemann-Integreerbaarheid en de hoofdstelling van de calculus

Verder worden uit een aanvullend dictaat de volgende onderwerpen behandeld:

- Complexe getallen
- Differentiaalvergelijkingen

### Onderwijsvorm

Hoorcollege 2x2 uur per week, werkcollege 1x2 uur per week

### Toetsvorm

Een deeltentamen aan het einde van periode 1.1 (telt voor 50%).

Een deeltentamen aan het einde van periode 1.2 (telt voor 50%).

Het eindcijfer voor de cursus wordt dus bepaald aan de hand van de cijfers van de deeltentamens. Als dit gemiddelde cijfer een onvoldoende is, kan voor het hele vak een hertentamen gemaakt worden. Deeltentamens kunnen niet apart herkanst worden.

### Literatuur

A Friendly Introduction to Analysis; Single and Multivariable, second edition, Witold A. J. Kosmala, Pearson. ISBN 0130457965/978-0130457967.

Aanvullend dictaat, beschikbaar gesteld via Blackboard

### Doelgroep

1 Econometrie

### Overige informatie

Er wordt van je verwacht dat je voorbereid naar het werkcollege komt, en de opgaven al vooraf uitgeprobeerd hebt. Ter plekke worden slechts enkele opgaven uitgewerkt, voor de andere opgaven is er hulp beschikbaar als je er zelf niet uit komt. Via handtekeningenlijsten wordt de aanwezigheid van studenten bij het werkcollege bijgehouden.

## Analysis II

<b>Vakcode</b>	X_400642 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. ir. R.F. Swarttouw
<b>Examinator</b>	dr. ir. R.F. Swarttouw
<b>Docent(en)</b>	dr. ir. R.F. Swarttouw, dr. M.A. Estevez Fernandez
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	100

### Doel vak

De kennis van Analysis I wordt uitgebouwd in de richting van de multivariate analyse, met speciale aandacht voor terreinen die nodig zijn binnen latere vakken in de econometrie. Hij/zij raakt bekend met rijen, reeksen en functies van meerdere variabelen en basisbegrippen als limiet, continuïteit, differentieerbaarheid en integreerbaarheid. Er is aandacht voor wiskundige stellingen en hoe die formeel bewezen kunnen worden. Daarnaast wordt de student een groot aantal calculus-technieken bijgebracht, waarmee wiskundige berekeningen over bovengenoemde begrippen kunnen worden gemaakt.



## Inhoud vak

In dit vak wordt ingegaan op rijen en reeksen en de analyse van functies met meerdere variabelen. Er is naast aandacht voor de stellingen en hun bewijzen, voldoende ruimte voor het aanleren van en het oefenen met allerlei calculus-technieken. Een keuze wordt gemaakt uit de onderwerpen

- Rijen en functierijen, uniforme convergentie
- Machtreeksen en functiereeksen
- Continuïteit, limieten en elementaire topologie in de Euclidische ruimte
- Multivariabele differentiaalrekening, inclusief de Taylor formule en optimalisatie
- Meervoudige integralen, inclusief herhaald integreren en de Stelling van Fubini, verandering van variabelen, oneigenlijke integralen

## Onderwijsvorm

Hoorcollege 2x2 uur per week, werkcollege 1x2 uur per week

## Toetsvorm

Een deeltentamen aan het einde van periode 1.4 (telt voor 50%).

Een deeltentamen aan het einde van periode 1.5 (telt voor 50%).

Het eindcijfer voor de cursus wordt dus bepaald aan de hand van de cijfers van de deeltentamens. Als dit gemiddelde cijfer een onvoldoende is, kan voor het hele vak een hertentamen gemaakt worden. Deeltentamens kunnen niet apart herkanst worden.

## Literatuur

- 1) A Friendly Introduction to Analysis; Single and Multivariable, second edition, Witold A. J. Kosmala, Pearson. ISBN 0130457965/978-0130457967.
- 2) Advanced Calculus, Avner Friedman, Dover publications, 2007, ISBN-13: 978-0-486-13786-5.

## Aanbevolen voorkennis

Deze cursus bouwt verder op de kennis verworven in de cursus Analysis I.

## Doelgroep

1 Econometrie

## Overige informatie

Er wordt van je verwacht dat je voorbereid naar het werkcollege komt, en de opgaven al vooraf uitgetoetst hebt. Ter plekke worden slechts enkele opgaven uitgewerkt, voor de andere opgaven is er hulp beschikbaar als je er zelf niet uit komt. Via handtekeningenlijsten wordt de aanwezigheid van studenten bij het werkcollege bijgehouden.

## Applications in Economic Policy: Policy Analysis, Formulation and Evaluation

<b>Vakcode</b>	E_ME_AEP ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. W. Janssens
<b>Examinator</b>	dr. W. Janssens
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

## Doel vak

The objective of this course is to develop the capability of students to independently analyse a policy issue, design a policy response, or evaluate a policy intervention from an economic point of view.

Specific learning outcomes upon completion of this curricular item are:

- Students are able to identify a relevant (economic) policy issue, to motivate the urgency of the issue, and to formulate an appropriate research question
- Students are able to locate relevant economic theory in the literature and to apply it correctly in order to analyse the policy issue and to identify the economic rationale of potential or actual policy responses
- Students are able to identify, interpret and compare empirical findings from the economic literature to describe the policy issue, and/or the behavioural response of the market and government actors, and/or the impact of these responses
- Students have developed a critical attitude to the relevance and shortcomings of empirical data compared to theoretical requirements, and have become aware of limitations in insights that can be gained from theoretical reasoning alone when addressing real-life issues
- Students are able to present their findings clearly to academic expert and non-expert audiences
- Students are able to work independently, while incorporating relevant feedback into their work
- Students are able to give constructive feedback to peers

## Inhoud vak

In this intensive period course, students work in a policy area of their choice (e.g. international financial systems and banking regulation, macro policy, development and growth, environment, urban/transport, health, human capital, competition policy, industrial policy). Students write an economic policy-oriented research paper focusing on policy analysis, design and/or evaluation.

## Onderwijsvorm

One introductory lecture followed by weekly working groups (compulsory attendance)

## Toetsvorm

Paper, presentation and working group participation

## Literatuur

Various theoretical and empirical academic papers (dependent on the topic)

## Vereiste voorkennis

Foundations of Microeconomics and Development of Macroeconomic Thought

## Aanbevolen voorkennis

Business Cycles and Stabilization Policy and Structural Policy

## Applied Analysis: Financial Mathematics

<b>Vakcode</b>	X_400076 (400076)
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0

<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	prof. dr. A.C.M. Ran
<b>Examinator</b>	prof. dr. A.C.M. Ran
<b>Docent(en)</b>	prof. dr. A.C.M. Ran
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

### Doel vak

The course aims to introduce the student to several aspects of the mathematical theory of option pricing.

### Inhoud vak

This course gives an introduction to financial mathematics.

The following subjects will be treated:

- introduction in the theory of options;
- the binomial method;
- introduction to partial differential equations;
- the heat equation;
- the Black-Scholes formula and applications;
- introduction to numerical methods, approximating the price of an (American) option.

### Onderwijsvorm

Lectures, exercises, discussion of exercises.

### Toetsvorm

Homework exercises and oral examination

### Literatuur

The Mathematics of Financial Derivatives, A Student Introduction, by Paul Wilmott, Sam Howison, Jeff Dewynne. Cambridge University Press.

In addition, lecture notes will be made available for several topics which are not treated in the book.

### Aanbevolen voorkennis

Calculus and Linear Algebra

### Doelgroep

3W, mMath, mBA, 3Ect

## Auditing

<b>Vakcode</b>	E_EBE3_AUD ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. A.H. Gold
<b>Examinator</b>	prof. dr. A.H. Gold
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

## **Doel vak**

The goal of this introductory course to auditing is to learn about fundamental elements of (financial statement) auditing, both from a practical perspective and from a theoretical/academic point of view. With respect to the practical perspective, students will be exposed to the purpose of and economic demand for auditing, fundamental elements of conducting an audit, and the process employed by financial auditors (Knowledge; Academic skills; Bridging theory and practice). Significant attention will be devoted to ethical threats facing the auditor (Self-awareness, General development). Finally, students will analyze, discuss and interpret academic audit research output (Knowledge; Research skills; Academic skills).

More specifically, on successful completion of this course, students will be able to:

- explain the economic and societal role of financial audits;
- describe applicable regulatory and ethical requirements that guide the conduct of audits and determine when these requirements are applicable;
- describe the career path that the auditing profession offers;
- define the main concepts of auditing, such as reasonable assurance, the audit risk model, and materiality;
- identify and illustrate all the stages of the audit process;
- reflect on ethical dilemmas that the student will face in his/her future role as auditor;
- analyze and interpret auditing cases using the obtained knowledge about main auditing concepts, the audit process, and given ethical awareness;
- recall the essence of a select number of state-of-the-art research articles in auditing and critically discuss and reflect on their findings.

## **Inhoud vak**

Auditing involves the testing and evaluation of evidence against agreed norms or criteria. The auditor has an important societal function because financial statement users (e.g. shareholders) and other stakeholders require some level of third party assurance on the qualitative aspects of information found in the financial statements, such as information reliability and relevance. For example, shareholders require primarily assurance about the reliability of financial statements, since they use these statements for their professional decision-making. Providers of debt financing, such as banks, need to know whether the presented liquidity ratios are accurate.

The course will focus on the role of the auditor in society and what demands this role imposes on the auditor. We start by giving an introduction to the demand for auditing, relying on the theoretical economic foundations of the profession. Next, the course focuses on the audit process, starting with the planning stage of the audit, where the auditor obtains an understanding of the client and its business and designs the audit plan, while paying careful attention to the audit risk model. The next two audit stages discussed at a general level include the conduct of audit procedures. Auditors can obtain various types of audit evidence to test the assertions (claims) made by management in the financial statements. The audit process concludes with the completion stage of the audit. By examining audit evidence obtained during an audit, auditors ultimately decide which type of auditor's report to issue. We also devote significant attention throughout the course on the

audit profession's need for ethical behavior and professional skepticism, as well as the auditor's role and responsibilities with respect to fraud. Throughout the course, students will be offered the opportunity of interacting with practice during audit firm visits, practice-based case studies and/or guest lectures by practitioners.

Aside from offering students a practice-based introduction to the auditing profession, students will also be exposed to the academic auditing discipline by reading a selection of academic audit research papers and discussing the importance of the findings for the auditing profession.

### Onderwijsvorm

Lectures.  
Tutorials.

### Toetsvorm

Weekly or biweekly multiple choice tests – individual assessment.  
Essay - individual assessment.  
Written exam with open questions – individual assessment.

### Literatuur

- 'Principles of Auditing' by Rick Hayes, Hans Gortemaker, and Philip Wallage, Pearson 3rd Edition.
- Academic papers (available on Blackboard).
- Additional readings will be announced on Blackboard.

### Aanbevolen voorkennis

Basic understanding of Financial Accounting and Accounting Information Systems.

## Automata and Complexity

<b>Vakcode</b>	X_401049 (401049)
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	drs. J. Endrullis
<b>Examinator</b>	drs. J. Endrullis
<b>Docent(en)</b>	drs. J. Endrullis
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

The student is acquainted with important notions and algorithms regarding formal languages, automata, grammars, compilers, computability and complexity.

This course addresses foundational questions in computer science, such as: "What is a (programming) language?", "How can languages be recognised by computers (automata)", "Which problems can be solved using a class of automata?", "How much time and memory does solving a problem require?".

The course is divided into three parts: automata & languages, computability theory and quantum computing.

### **Inhoud vak**

The first part, on automata and languages, deals with the concepts of formal language, grammar, and automaton. Two types of languages are covered: regular and context-free languages. Regular languages are used, e.g., in search queries, in the form of regular expressions. Context-free languages are suitable to describe programming languages. The automata-theoretic counterparts here are finite automata and the more powerful pushdown automata. Pumping lemmas are discussed to determine whether a language is regular or context-free. With each type of language a class of grammars is associated: left-linear and context-free grammars. Parsing algorithms are presented for context-free languages, to determine whether a string is in the language.

In the second part of the course, on computability theory, the central question is "Which computations can be performed on a computer?". To reason about this question, Turing machines are introduced, as well the Church-Turing thesis, along with examples of undecidable problems: the halting problem and the Post correspondence problem. It is shown how undecidability of new problems can be shown by reduction from a known undecidable problem. Important complexity classes from the complexity hierarchy are discussed, notably P, NP, and NP-complete, together with the corresponding reduction arguments.

The final part treats basic concepts in quantum computing: qubits, entanglement and quantum-operations. It is shown how quantum computing can improve computing, first using a parity game, and later by introducing Simon's algorithm. The latter solves a problem in polynomial time, where in the traditional setting the best known solution has an exponential time complexity. We conclude with the quantum and probabilistic complexity classes BQP and BPP.

### **Onderwijsvorm**

4 hours per week lectures; 4 hours per week exercise classes

### **Toetsvorm**

Written exam (plus weekly homework exercises, which can earn up to 0.5 bonus point)

### **Literatuur**

Peter Linz, An Introduction to Formal Languages and Automata, Jones & Bartlett, 4th or 5th edition

### **Doelgroep**

3CS

## **Bayesiaanse Statistiek**

<b>Vakcode</b>	XBU_400468 (400468)
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit

<b>Niveau</b>	400
---------------	-----

### Inhoud vak

<http://studiegids.uva.nl/xmlpages/page/2016-2017/zoek-vak/vak/27068>

### Doelgroep

3W

### Overige informatie

This course is offered at the UvA. For more information contact: FNWI Education Service Centre, Science Park 904, servicedesk-esc-[science@uva.nl](mailto:science@uva.nl), +31 (0)20 525 7100.

Enrolment via <https://m.sis.uva.nl/vakaanmelden> is required.

## Bedrijfsmodellering en requirements engineering

<b>Vakcode</b>	X_401005 (401005)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Examinator</b>	dr. J.F.M. Burg
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Na dit vak is de student in staat:

- een probleem- en veranderingsanalyse uit te voeren met betrekking tot een IT vraagstuk in een bedrijfsmatige context;
- op modelmatige wijze in kaart te brengen hoe een informatiesysteem als oplossing past in bedrijfsstrategie en bedrijfsproces;
- verschillende methodieken toe te passen voor het eliciteren van door de organisatie te stellen eisen aan een te ontwikkelen informatiesysteem.

### Inhoud vak

Het vak Bedrijfsmodellering en Requirements Engineering (BMRE) behandelt de analyse van bedrijfsvraagstukken, waarbij introductie of uitbreiding van een informatiesysteem een van de mogelijke oplossingen is. Dit omvat de activiteiten en methodieken die nodig zijn om:

- (1) een probleemanalyse uit te voeren met betrekking tot IT vraagstukken in een bedrijfsmatige context;
- (2) te modelleren hoe een gewenst informatiesysteem past in het bedrijfsproces en aan te geven welke eventuele veranderingen daarbij wenselijk zijn;
- (3) het ontwikkelen en toetsen van het te stellen pakket van eisen aan een te bouwen informatiesysteem.

### Onderwijsvorm

Het vak bestaat uit een college met een tentamen en een practicum. Beide moeten voldoende zijn.

### Literatuur

Syllabus.

## Behavioral Game Theory

<b>Vakcode</b>	E_HP2_BGT (60322180)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. H.E.D. Houba
<b>Examinator</b>	dr. H.E.D. Houba
<b>Docent(en)</b>	dr. H.E.D. Houba
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

To get acquainted with behavioral game theory: what is it, what does it want to accomplish, and can it deliver wrt the aims it has set. This includes why observed behavior in experiments systematically deviates from predictions made by classical Game Theory.

Through performing classroom experiments students will get a more intense experience of what it means to participate in a game setting, to better interpret and understand experimental design and develop a critical attitude towards empirical evidence from experiments.

### Inhoud vak

Everywhere people, firms and institutions interact with each other in many different settings. For instance, negotiations for a contract or treaty, individuals or firms contributing to a joint partnership, managers motivating employees. Firms competing on the market, including web-shops, procurement auctions in B2B for contractors, and art-lovers competing at Christies. In all cases, the final outcome for each participant also depends upon the behaviour of others. Each participant has to deal with the strategic uncertainty about how the others will behave. Game theory deals with such strategic uncertainty.

For these reasons, game theory has become an influential toolbox in all branches of Economics, Finance and Management Science. It sometimes serves a normative role for policy advice (central banks should be independent), and at other times a descriptive role (keeping right when driving is stable and explains reality). There is also substantial evidence from experiments and reality that Game theory (and Economic Theory in general) sometimes makes lousy predictions. This course offers an inquiry for understanding the discrepancy between theory and reality. Also, theoretical developments to resolve this discrepancy need investigation.

The inquiry starts with laying bare the foundations of Game Theory: What are the driving principles. A major question is whether these principles can be tested in practice? Then, evidence from behavioural economics on game theoretic experiments will be investigated to establish the discrepancy between theory and reality. Finally, theoretical attempts to restore the descriptive power of Game Theory are discussed. Whenever



possible, the normative implications for economic policy will be discussed.

### Onderwijsvorm

Because of the small group size (less than 15 students), the format differs from regular bachelor courses. The course consists of a mixture of classroom experiments, lectures in which participants and lecturer interact, presentations, discussions, reading scientific literature

### Toetsvorm

Presentation and a final individual assignment that includes writing an essay and performing experiments

### Literatuur

Selected scientific articles that are disclosed through Blackboard

### Vereiste voorkennis

None, except some elementary knowledge of economics

### Aanbevolen voorkennis

None

### Doelgroep

Honours students from FEWEB, other honours students

### Intekenprocedure

VUnet

## Behaviour Genetics (UM)

<b>Vakcode</b>	P_UBEHGEN ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. C.V. Dolan
<b>Examinator</b>	dr. C.V. Dolan
<b>Docent(en)</b>	dr. C.V. Dolan
<b>Lesmethode(n)</b>	Hoorcollege, Practicum
<b>Niveau</b>	300

### Doel vak

The aim of this course is to introduce students to behaviour genetics as applied to psychological variables. The students will learn what questions behaviour genetics addresses, and what designs and methods are used to answer these questions. The psychological variables of specific interest are intelligence and depression.

### Inhoud vak

This course will include explanation of the following:

- 1) The biometric model, underlying twin and family designs (used to infer the role of genetic and environmental effects from family resemblance).
- 2) Univariate and multivariate twin and family design

3) Methods based on measured genetic variants (candidate gene studies, GWAS and GCTA).

4) Introduction to non-parametric linkage and its relation to GCTA.

5) Gene-environment interplay (genotype X environment interaction, and genotype -environment covariance)

Each method is introduced conceptually, and in statistical / graphical terms (noteL we assume little prior statistical knowledge). Each method is discussed in terms of its application to intelligence and or depression.

\*GWAS = genome wide association studies

\* GCTA = genetic complex trait analysis

### Onderwijsvorm

Lectures

### Toetsvorm

An written exam (tentamen)

### Literatuur

Articles + book chapters

### Vereiste voorkennis

Basic statistics (this is only: means, variance, covariance, correlation, linear regression). But all basic statistics will be reviewed during the lectures.

## Biologische Psychologie (UM)

<b>Vakcode</b>	P_UBIOPSY ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. D. van t Ent
<b>Examinator</b>	dr. D. van t Ent
<b>Docent(en)</b>	dr. D. van t Ent
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Inzicht verwerven in de structuur en functie van het zenuwstelsel en de rol van het zenuwstelsel in (ab)normaal gedrag.

### Inhoud vak

Begrippen uit de biologie aansluitend bij de processen die men in de psychologie bestudeert. Aan de orde komen structuur en organisatie van het centrale en perifere zenuwstelsel, neurotransmissie, psychofarmaca en de biologische mechanismen achter waarnemen, motoriek, emoties en de hogere cognitieve functies (geheugen, spraak, bewustzijn). Tijdens de colleges wordt tevens ingegaan op neurologische stoornissen (Parkinson, Broca's afasie, Alzheimer etc. ) en de biologie van gedragstoornissen (slaapstoornissen, psychosen, angstigheid, depressie, verslaving).

### Onderwijsvorm

### Toetsvorm

Twee deeltentamens. De deeltcijfers tellen beiden even zwaar mee voor het eindcijfer. Indien het eindcijfer lager is dan 1.0 wordt het cijfer 1.0 gegeven. De deeltcijfers zijn alleen geldig in het huidige studiejaar.

### Literatuur

Speciale VU editie, alleen te koop in de VU boekhandel:

Title: Biological Psychology

Compiled by: Dr. Dennis van 't Ent

School name: VU university, faculty of psychology and education

ISBN: 9781783991648

## Biomedische wiskunde

<b>Vakcode</b>	X_401056 (401056)
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. R. Planque
<b>Examinator</b>	dr. R. Planque
<b>Docent(en)</b>	dr. R. Planque, dr. W.N. van Wieringen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

### Doel vak

Dit vak bestaat uit twee delen, elk met eigen doel en inhoud.

1. Het leren modelleren van biologische processen. Meer specifiek: een wel-overwogen keuze maken welke wiskundige technieken in te zetten bij verscheidene biologische problemen waarin vooral een tijdscomponent een rol speelt; aan de hand van deze keuze modellen op te stellen voor de betreffende biologische context;

een analyse van dit model door te werken die bestaat uit het vinden van evenwichten, lineaire stabiliteitsanalyse en de effecten te beschrijven die optreden bij het veranderen van parameters; een interpretatie te geven van deze wiskundige resultaten in de biologische context; naast de stabiliteitsanalyse ook het lange-termijn gedrag van oplossingen kunnen bestuderen aan de hand van het concept van dominante eigenwaarden.

2. Het bekend raken met statistische begrippen en technieken die een rol spelen in het modelleren en analyseren van processen op het moleculaire niveau van de cel. Onder andere Markov modellen, regressie modellen in hoog-dimensionale context, en Gaussian grafische modellen komen aan bod. Naast het modelleren wordt aandacht besteed aan het schatten van de model parameters aan de hand van data. Uiteindelijk dient de student zelfstandig bovengenoemde statistische analyse uit te kunnen voeren alsmede die van derden kritisch te beoordelen.

### Inhoud vak

1. De eerste helft van het college valt in twee stukken uit, qua toepassing, data type (discreet vs. continue), en modellen en technieken. Echter, in beide college-stukken worden processen in de cel gemodelleerd. Een gebeurtenis in de cel staat niet op zichzelf, maar is

verweven met de rest van de cel. In dit gehele college deel worden deze afhankelijkheden gemodelleerd. Waar mogelijk worden voorbeelden afkomstig uit het VUmc ziekenhuis gebruikt om de statistische technieken te illustreren. In het eerste stuk van dit college-deel staat het modelleren van de DNA sequentie centraal. Resulterende modellen worden aangewend om de evolutie van een kankercel te beschrijven. Of, middels hidden Markov modellen wordt de exon-intron structuur van een gen te ontrafelen. Maar ook wordt de evolutie van het DNA beschreven om vervolgens phylogenetische bomen (afstammingsbomen) te reconstrueren. In het tweede stuk wordt mbv verschillende technieken gepoogd de topologische structuur van het regulatoire netwerk van de cel (een pathway) te reconstrueren op basis van gen expressie data. Dat wil zeggen, kunnen we achterhalen welk gen met welk gen samenwerkt in de cel?

2. In de tweede helft behandelen we modellen in discrete en continue tijd voor één of meerdere variabelen, het opstellen, analyseren en interpreteren van deze wiskundige modellen. De contexten variëren van populaties tot chemische reacties.

### Onderwijsvorm

College en huiswerk

### Toetsvorm

Inleveropdrachten en tentamen.

### Literatuur

Edelstein-Keshet, L. "Mathematical Models in Biology".  
Society of Industrial and Applied Mathematics, 2005.  
ISBN 978-0898715545.

### Doelgroep

3W, 3W-B

## Brain in Trouble

<b>Vakcode</b>	AB_1038 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Aard- en Levenswetenschappen
<b>Coördinator</b>	dr. H.K.E. Vervaeke
<b>Examinator</b>	dr. H.K.E. Vervaeke
<b>Docent(en)</b>	prof. dr. S. Spijker, prof. dr. T.J. de Vries, dr. H.K.E. Vervaeke
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep, Computerpracticum
<b>Niveau</b>	300

### Doel vak

The goal of this course is to deepen understanding of the etiology, expression and treatment of (psychiatric) brain disorders, as well as models used in preclinical science. Students will be encouraged to critically analyze the impact of brain disorders on society.

Learning outcomes:

The student is able to explain the contribution of genetic and environmental factors to complex multifactorial diseases such as mental disorders.

The student is able to elaborate on various treatment options for psychiatric disorders.

The student is able to critically reflect on the boundaries between normal (healthy) and abnormal (ill) behavior and the implications for society.

### **Inhoud vak**

The focus of this course is on the etiology of mental disorders, such as addiction, ADHD, obsessive-compulsive disorder, eating disorders and mood disorders, with special attention for the nature-nurture discussion. Various treatments options for these conditions, including the use of pharmacological agents, behavioral therapy and deep brain stimulation will be discussed. Students will be challenged to critically reflect on the boundaries between normality and abnormality and the implications for society.

First Theme: addiction and impulsivity

What is addiction? Is addiction truly a brain disorder? Do genes play a role in addiction? How does society view illicit drug use and addiction? Are all drugs equally harmful? How to treat addiction? Is ADHD a real mental disorder, or a cultural construct used to bring deviant or socially undesirable behavior under medical surveillance and control? Is it a good idea to treat children who have been diagnosed ADHD, with psychostimulant medications? What is the role of pharmaceutical companies? Do sugar and food additives elicit hyperactive behavior? Are there any advantages in having ADHD?

Second Theme: obsessive compulsive disorders, eating disorders and cognitive enhancement

Can you treat OCD with Deep Brain Stimulation? Is our Western beauty ideal at the root of eating disorders? Is the individual to blame for being obese? Is it ethical to improve your mental performance by cognitive enhancers?

Third Theme: mood disorders & social behaviours

Is depression a real brain disorder or an inability of our culture to accept sadness as an integral part of life? Do genes play a role in the etiology of major depressive disorder and bipolar disorder? What is the efficacy of pharmacotherapy and behavioral therapy? What is the role of pharmaceutical companies?

Is there a neural basis to antisocial behavior? If biology and circumstance conspire to prime certain individuals toward violence, how much responsibility do people really bear for their actions? Are violent delinquents worth treating? Should brain imaging / genetic profiling be used in legal cases? Can neuroscience assist in determining responsibility? If neural circuitry underlying morality is compromised, is it morally wrong to punish prisoners?

**Onderwijsvorm**

Lectures (30 hours), computer practical (2 hours), homework assignments (6 hours), class discussions (2 hours)

**Toetsvorm**

Written exam (combination of MC-questions and open-end questions) (75%) and class discussions/assignments (25%), each at least grade 5.5.

**Literatuur**

"Foundations Of Behavioral Neuroscience" by N.R. Carlson (Pearson Education (US)), 8th edition.

Extra literature on Blackboard

**Aanbevolen voorkennis**

The courses 'Cognitive Neuroscience' and 'Nature vs. Nurture' from the minor 'Brain & Mind'

**Doelgroep**

Part of minor Brain and Mind

Open to students from all educational backgrounds (e.g., exact, social, life and economic sciences) with an interest in the brain and mind.

**Overige informatie**

Central Academic Skill: Debating and discussing

**Bubbles and Crashes**

<b>Vakcode</b>	E_HP1_BC ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. A.H. Siegmann
<b>Examinator</b>	dr. A.H. Siegmann
<b>Docent(en)</b>	dr. A.H. Siegmann
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

**Doel vak**

The goal of the course is to introduce you to the economic thinking on the causes of stock market bubbles and crashes. Two additional goals are the development of your debating skills and writing in English.

**Inhoud vak**

The financial crisis that started in 2007/2008 led to the most serious economic and financial crisis since the 1930s. However, many of the elements of the current crisis are not new. In fact, there is a whole body of literature studying bubbles and crashes. In this course, we will learn about historical bubbles, crises and their causes, and the economic models that offer an explanation for these phenomena. The models include behavioral finance explanations as well as classical theories on the behavior of lenders, borrowers, investors and political institutions.

### Onderwijsvorm

The course is structured as a series of discussion sessions, for which students prepare discussion questions on selected chapters of the book. The role of chair is rotated among students. Three assignments deal with (i) identifying stock market crashes, (ii) predicting crashes, and (iii) setting up and evaluating an investment strategy that exploits bubble and crash patterns over time.

### Toetsvorm

The course grade consists for 50% of preparation and in-class participation and for 50% of the assignments.

### Literatuur

The literature is the book "Irrational Exuberance" by Robert Shiller (Nobel Laureate 2013). This is a classic text on the subject, and the 2009 edition is updated to include a discussion of the financial crisis.

### Doelgroep

The intended audience is second and third-year students of Economics, Business and Econometrics.

## Business Anthropology

<b>Vakcode</b>	S_BA ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	prof. dr. A.H. van Marrewijk
<b>Examinator</b>	prof. dr. A.H. van Marrewijk
<b>Docent(en)</b>	prof. dr. A.H. van Marrewijk
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

Important goals in this module are:

- Understand which anthropological theories and methods can contribute to business perspectives.
- Identify the different fields in which business anthropologists are hired.
- Identify roles anthropology has to play in business as well as how anthropologists work within a business context.

### Inhoud vak

This seminar explores how anthropological theories and methods have made significant contributions to the business world. Business anthropology is defined as applying anthropological theories and practices to the needs of private sector organizations, especially industrial business firms. Increasingly business anthropologists are hired in corporations in the fields of:

- marketing and consumer behavior,
- product design,
- international business,
- intercultural management,

- cross cultural cooperation,
- organizational cultural change.

The seminar discusses these fields and the possibilities of organization anthropologists to acquire work and assignments as business anthropology is gaining importance and prestige in the business sector.

### Onderwijsvorm

Lectures and discussion groups. 12 lectures deal with most important fields of business anthropologists. Students will prepare and discuss two assignments.

### Toetsvorm

Students have to hand in the two assignments (20%) before permitted for the final exam (80%).

### Literatuur

Tian, Robert G., Lillis, Michael P., and Van Marrewijk, Alfons H.(2010). General Business Anthropology. Miami, FL: North American Business Press. 580pp.

Van der Ende and A.H. Van Marrewijk (2014). The Ritualization of transitions in the project life cycle: a qualitative study of transition rituals in the Transformative Rituals in Construction Megaprojects. International Journal of Project Management. 32(7), 1134-1145.

### Doelgroep

Bachelor students

### Overige informatie

Presence in discussion groups is obligatory.

## Business Cycles and Stabilization Policy

<b>Vakcode</b>	E_ME_BCSP ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M. Mastrogiacomo
<b>Examinator</b>	dr. M. Mastrogiacomo
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	200

### Doel vak

The objective of the course is to introduce students to the theory and practice of macroeconomic and monetary policy, including regulation of the financial system.

Specific learning outcomes upon completion of this curricular item are:

- Ability to apply macroeconomic concepts and theories to analyze problems of employment and inflation
- Capability to analyze the role macroeconomic policymakers in managing business cycles
- An understanding of the policy problems facing central banks
- Ability to interpret recent macroeconomic empirical work on economic crises and the effects of fiscal and monetary policy



## Inhoud vak

The course starts with discussing the historical development of Macroeconomic theories explaining the origin of business cycles:

- Say's law versus Malthus' gluts
- The Great Depression + the Keynesian revolution: Keynes, Hicks, Modigliani, Samuelson
- Business cycle theory: Schumpeter, Austrians, Kuznets
- Recent financial crises

Next, the course continues with discussing the roles of different authorities in conducting macroeconomic policies. This part of the course includes the following topics:

- Money: creation, control of the money supply, interest rates, bank reserves, securitization
- Central banking: Fed, ECB, independence, different targets
- Stabilizing role of Fiscal policy: automatic stabilizers, crowding out, budget deficits, effectiveness
- Stabilizing role of Monetary policy: Taylor rules, quantitative easing, liquidity trap, effectiveness
- The Debt-Driven Crisis: the Micro-explanation to the Great Recession

The course concludes with discussing recent empirical work on economic crises and the effects of fiscal and monetary policy.

This course is the sequel to the course Development of Macroeconomic Thought.

## Onderwijsvorm

Lectures, guest lectures and working groups

## Toetsvorm

Grade is average of problem sets (2/5) and written examination (3/5), with written exam grade of at least 5.0.

## Literatuur

Acemoglu, Daron, David Laibson and John A. List, 2016, Economics, Harlow, Essex, Pearson Education Ltd. ISBN 13: 978-1-292-07920-2, incl. access code MYECONLAB.

## Vereiste voorkennis

Basic knowledge of math and statistics, as provided in the academic core of any academic program at the VU University Amsterdam or equivalent.

## Aanbevolen voorkennis

Development of Macroeconomic Thought

## Business Game

<b>Vakcode</b>	E_EOR3_BG ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. ir. S.L.J.M. de Leeuw

<b>Examinator</b>	prof. dr. ir. S.L.J.M. de Leeuw
<b>Lesmethode(n)</b>	Werkgroep
<b>Niveau</b>	300

### Doel vak

The learning outcomes of the Business Game are the following:

#### Academic skills

In this course the students will apply OM theory to practical decisions in a business game. They learn to look at management and team decisions through behavioural lenses.

#### Quantitative methods.

The students will apply quantitative methods to support your decisions in the games.

#### Professional skills

This course provides students hands-on experience with running a supply chain in realistic game settings

#### Social skills

In this course the students work in teams on complex decision problems. They will learn how to deal with conflicting interests and problems they need to solve as a team.

#### Link to practice

This course provides realistic game settings that mimic decision-making in practice.

### Inhoud vak

In this course teams of students compete with each other in a number of operations management (OM) games. The games are played in rounds that each requires considerable preparation for making decisions. We will complement the game play with a series of lectures on topics relevant to these games. They relate to amongst others behavioural operations management, strategic procurement and contracting. There are frequent feedback lectures in which courses of action by the teams in the games will be discussed.

### Onderwijsvorm

Lectures, instruction meetings and computer tutorials

### Toetsvorm

Assignment reports and game performance (team and individual assessment)

### Literatuur

Various papers that will be made available via blackboard

### Vereiste voorkennis

The previous courses of this minor

## Business Intelligence and Analytics

<b>Vakcode</b>	E_IBK3_BIA ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0

<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.G.A. Plomp
<b>Examinator</b>	dr. M.G.A. Plomp
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege, Responsiecollege
<b>Niveau</b>	300

### Doel vak

#### Academic skills:

In this course we teach you to analyze and apply the basic concepts, principles and theories that are needed to address the business intelligence & analytics (BI&A) challenges organizations face.

Furthermore, you will learn how to apply knowledge learned from scientific publications on practical BI&A related problems as well as why business intelligence & analytics are considered digital innovations.

#### Quantitative skills:

You will learn to select and analyse data to solve business cases and as such create business insights.

#### Knowledge:

You will obtain fundamental knowledge on concepts and theories related to BI&A that are important for organizations. You will learn to describe and define the core BI&A concepts, principles and theories that are important for organizations in general, and as drivers for innovation more specifically.

#### Bridging theory and practice:

You will learn to apply theoretical knowledge in specific practice situations. You will also learn to translate business strategies into information requirements for decision support systems and to work with business intelligence tools (solve business cases and create business insights) that are well established in businesses. Business consultants are actively involved in this course and will share their experience through case presentations and discussions in the tutorial sessions.

Furthermore, this course will offer insight into the professional possibilities in the field of BI&A.

#### Social skills:

In the 'in company' masterclasses you will work in a team and present BI&A pitches to a business audience.

### LEARNING OUTCOMES

After successfully finishing this course you must be able:

- To define, describe and recall the basic concepts, principles and theories underlying business intelligence & analytics solutions (decision support systems).
- To evaluate and discuss the organizational and social implications of business intelligence & analytics solutions
- To classify and compare business intelligence & analytics solutions as well as the constituent components of business intelligence & analytics solutions
- To apply business intelligence & analytics concepts, principles and theories to business problems
- To explore data-driven business models
- To explore, analyze and determine how big data can drive business model innovation
- To analyze business cases, and propose business intelligence &

analytics solutions and decide which data to use given a business problem to be solved.

- To create insights using established business intelligence & analytics tools.

### **Inhoud vak**

Data is hot! How organizations deal with the overabundance of data and the ability to transform data into insights have become critical success factors for every organization. Key words in this context are 'big data', 'data science', and 'data –driven decision making and innovation'. This course offers the handles that are needed to fully deploy the potential of data, and business intelligence & analytics solutions in order to create competitive advantage. The course primarily has a managerial focus, technology will be used primarily to create hands on experience with relevant BI&A technologies and as such enhance insights in their features and characteristics. There is a lot of business involvement in this course: experts from industry and BI&A consultants will share their insights and experience in the weekly workshops.

### **Onderwijsvorm**

Lectures

Tutorials

### **Toetsvorm**

Written exam – Individual assessment

Interim Assignment(s) / Tests

### **Literatuur**

This course is article based.

Readings will be announced in the course manual.

### **Aanbevolen voorkennis**

BK:

2.1 Business Information Technology

IBA:

2.1 Business Information Systems

## **Business Intelligence and Analytics**

<b>Vakcode</b>	E_MM_BIA ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. J.F.M. Feldberg
<b>Examinator</b>	prof. dr. J.F.M. Feldberg
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Responsiecollege

### **Doel vak**

Academic skills:

In this course we teach you to analyze and apply the basic concepts, principles and theories that are needed to address the business intelligence & analytics (BI&A) challenges organizations face.

Furthermore, you will learn how to apply knowledge learned from scientific publications on practical BI&A related problems as well as why business intelligence & analytics are considered digital innovations.

#### Quantitative skills:

You will learn to select and analyse data to solve business cases and as such create business insights.

#### Knowledge:

You will obtain fundamental knowledge on concepts and theories related to BI&A that are important for organizations. You will learn to describe and define the core BI&A concepts, principles and theories that are important for organizations in general, and as drivers for innovation more specifically.

#### Bridging theory and practice:

You will learn to apply theoretical knowledge in specific practice situations. You will also learn to translate business strategies into information requirements for decision support systems and to work with business intelligence tools (solve business cases and create business insights) that are well established in businesses. Business consultants are actively involved in this course and will share their experience through case presentations and discussions in the tutorial sessions.

Furthermore, this course will offer insight into the professional possibilities in the field of BI&A.

#### Social skills:

In the 'in company' masterclasses you will work in a team and present BI&A pitches to a business audience.

## LEARNING OUTCOMES

After successfully finishing this course you must be able:

- To define, describe and recall the basic concepts, principles and theories underlying business intelligence & analytics solutions (decision support systems).
- To evaluate and discuss the organizational and social implications of business intelligence & analytics solutions
- To classify and compare business intelligence & analytics solutions as well as the constituent components of business intelligence & analytics solutions
- To apply business intelligence & analytics concepts, principles and theories to business problems
- To explore data-driven business models
- To explore, analyze and determine how big data can drive business model innovation
- To analyze business cases, and propose business intelligence & analytics solutions and decide which data to use given a business problem to be solved.
- To create insights using established business intelligence & analytics tools.

### Inhoud vak

Data is hot! How organizations deal with the overabundance of data and the ability to transform data into insights have become critical success factors for every organization. Key words in this context are 'big data', 'data science', and 'data –driven decision making and innovation'. This course offers the handles that are needed to fully deploy the potential of data, and business intelligence & analytics solutions in order to create competitive advantage. The course primarily has a managerial focus, technology will be used primarily to create hands on experience with relevant BI&A technologies and as such enhance insights in their features and characteristics. There is a lot of

business involvement in this course: experts from industry and BI&A consultants will share their insights and experience in the weekly workshops.

### Onderwijsvorm

Lectures  
Tutorials

### Toetsvorm

Written exam – Individual assessment  
Interim Assignment(s) / Tests

### Literatuur

This course is article based.  
Readings will be announced in the course manual.

### Aanbevolen voorkennis

BK:  
2.1 Business Information Technology

IBA:  
2.1 Business Information Systems

## Business Model Assessment

<b>Vakcode</b>	E_MB_BMA ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L. Lu
<b>Examinator</b>	dr. L. Lu
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

A basic understanding about corporate finance is required to assess the efficiency and efficacy of a company's business model. Would it be possible for companies like Google, Microsoft and Uber to develop (new) strategies and business models without insight in the present and future financial viability of the company? Corporate finance pertains to the sources of funding, the capital structure of corporations, and the actions that managers take to increase the value of the firm, as well as the tools and analysis used to allocate financial resources. The course Business Model Assessment provides an introductory course in Corporate Finance for students in the program. This course has two main learning objectives:

1. Gaining knowledge of theories, basic concepts and tools pertaining to the area of Corporate Finance.
2. Applying obtained knowledge in corporate finance to real life cases. That is, use and interpret financial information to make (strategic) decisions.

After participating in this course, you:

- Understand Corporate Finance concepts in economic terms, including their strengths and limitations
- Understand the unique features of each concept and interrelationship between different concepts
- Have quantitative skills to apply these basic concepts
- Are able to choose between various concepts and apply them in specific real life cases

### **Inhoud vak**

The course will start with an introduction of business assessment approaches and basic concepts. In subsequent lectures, students will focus more on the advanced topics of corporate finance, while selected topics may also be covered, e.g. optimal capital structure, M&A, corporate governance, etc. During the lectures the focus is on applying knowledge to real-life situations, and providing students with feedback on their work.

### **Onderwijsvorm**

Lecture 1: introduction to corporate finance (Chapter 1 in Berk & DeMarzo)

Tutorial 1: exercises (Chapter 1 in Berk & DeMarzo, plus some introductory materials)

Lecture 2: financial statement analysis (Chapter 2 in Berk & DeMarzo)

Tutorial 2: exercises (Chapter 2 in Berk & DeMarzo)

Lecture 3: financial decision making (Chapter 3 in Berk & DeMarzo)

Tutorial 3: case study on financial statement analysis (Materials will be posted on the blackboard after Lecture 1)

Lecture 4: investment decision rules (Chapter 7 in Berk & DeMarzo)

Tutorial 4: exercises (Chapter 7 in Berk & DeMarzo)

Lecture 5: capital budgeting (Chapter 8 in Berk & DeMarzo)

Tutorial 5: exercises (Chapter 8 in Berk & DeMarzo)

Lecture 6: CAPM (Chapter 11 in Berk & DeMarzo)

Tutorial 6: case study on firm valuation (Materials will be posted on the blackboard after Lecture 3)

### **Toetsvorm**

Individual written exam (70%) and two case studies (30%). Students need to work in groups to do the case studies. You can form groups of 4 or 5 students by yourself. If you cannot find group members, you can also sign with me and I will allocate a group randomly. The grading depends on the final report (about 4 pages) and also the group presentations in the tutorials.

The final grade consists of two with the following weights:

- Case studies 30%
- Written exam 70%

Your final course grade will be based on your case studies (30%) and written exams (70%). More details will be announced during the class. To pass the course, each assessment (case studies and written exams) needs to be higher than 5.0, and the average of both assessments needs to be higher than 5.5.

## Literatuur

To be announced.

## Business Model Innovation

<b>Vakcode</b>	E_MB_BMI ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J. Du
<b>Examinator</b>	dr. J. Du
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

The past few years have witnessed the emergence and success of several pioneering new types of companies, such as Uber, Airbnb, facebook, Tesla, and Amazon. While many long-established, resource-abundant and technologically-advanced firms gradually lose profit margins in their traditional markets, these new types of companies have shown extraordinary performance. The main objective of the course 'Business Model Innovation' (BMI) is to prepare students with fundamental knowledge about business models and business model innovation. This course is built on the combination of different streams of literature/theory on business strategy, innovation management, and entrepreneurship. Students are expected to be able to understand and apply the related theories and frameworks and to write a business plan. Being part of the whole Minor, this course also prepares students for the following courses "Business Model Assessment", in which they will learn how to assess their business models, and "Business Professionals", in which particular interests and skills in a specific field are developed and deepened.

In particular, after following the course students:

- Are able to critically reflect on business model innovation theories and tools
- Are able to apply theoretical perspectives from the different streams of literature to explain the observed business model innovation and their effects on corporate strategies and performance
- Are able to develop team skills, creative skills, develop cases, and communicate a business plan

### Inhoud vak

The course will start with an introduction of business models and corporate innovation strategies. It will then focus on a wide range of topics such as business idea generation, business opportunity identification, start-up firms creation, as well as corporate venturing. During the lecture, the first section is related to the theories and process of business model innovation. The second section is concerned with the application of tools and models necessary to write a business plan for the business ideas of student groups.

### Onderwijsvorm

Lectures and seminars. During the lectures, the different streams of theories will be explained and illustrated with actual examples.



Throughout the seminars, the theory is applied to student business plans and case analysis. Students discuss their progress through peer-review and with the support of experienced business developers.

### Toetsvorm

Business plan (group), and essay (individual)

### Literatuur

- Afuah, Allan. Business Model Innovation: Concepts, Analysis, and Cases. Routledge, 2014.
- Selection of academic papers and news articles

## Business Professionals

<b>Vakcode</b>	E_MB_BPROF ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. H.E.M. Binnendijk
<b>Examinator</b>	drs. H.E.M. Binnendijk
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

### Doel vak

In the course Business Professionals, the focus is on the human element in the business modeling paradigm. Who are the people behind the key strategic decisions for the business model of an established firm or a new business venture? What functions, behaviors and capabilities are required for successful collaboration on the design and implementation of new business models? The overall objective is gain knowledge about business models and management from the perspective of the professional.

In particular, when students complete this course, they will:

- Understand the profiles of key business professional roles such as chief executive officers, marketing, finance, human resources, operations and technology executives
- Be able to apply ideas about professionals for a reflection on their own background, personal role and career development as a (future) business professional
- Be able to formulate and analyze business modelling problems from the perspective of the business professional or related to the business plan developed in period 3.2
- Be able to develop a written proposal to research such problems

### Inhoud vak

During the course students will explore cases and theories about the contribution of professionals in management and organization. In addition, students are asked to design a research project reconciling business model thinking with professional orientations. That is, in designing their research project students have an opportunity to either extend the business plan developed in the course Business Model Innovation or design a research project associating business model thinking with their own professional background.

### Onderwijsvorm

Lectures and tutorials. In the first part of the course, lectures start with an introduction to (management) professionals; their task, responsibilities, and activities. In the second part, students will be acquainted with management research practices. Throughout the tutorials, students have the opportunity to apply the theoretical frameworks introduced in the lectures. To this end, the tutorials combine assignments, case studies and round-table discussions. In other tutorials, students will discuss and receive feedback on their research proposals. Students are expected to actively contribute to the group's experience and learning.

### Toetsvorm

Written exam, research proposal, presentation

### Literatuur

- Selection of articles, cases and support materials

## Business Project

<b>Vakcode</b>	E_MB_BPROJ ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. B.V. Tjemkes
<b>Examinator</b>	dr. B.V. Tjemkes
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

### Doel vak

The main objective of the course 'Business Project' is to familiarize students with knowledge and challenges associated with the design, execution, and evaluation of management (change) projects. Whereas during prior Minor business Administration courses students have been acquainted with various elements of management, during this course students are asked to integrate knowledge and adopt a multi-disciplinary approach in resolving real-life business issues. As the course builds on knowledge and skills acquired in the whole Minor, it encourages an even-handed appreciation of business model thinking and management disciplines. In particular, after following the course students:

- Have an advanced understanding of the decisions (methodological and managerial) associated with designing and conducting a business project (research, advise) in the area of business administration
- Are able to act professionally (individually and in teams) and systematically report their results, both verbally (report) and orally (presentation)

### Inhoud vak

The core of the course is based on a business venture. A venture which is confronted with numerous challenges that demand a resolution. During the lectures students will be confronted with knowledge required to design and conduct a business project. The focus will be on knowledge and understanding associated with multi-disciplinary approaches to deal with real-life business challenges, project management approaches to

deal with these challenges, and academic research to obtain and access relevant knowledge. In addition, during tutorial sessions students are challenged to explicate their decisions, and they will receive feedback.

### Onderwijsvorm

Lectures and tutorials. During the lectures, theory will be explained and illustrated with actual examples. Throughout the tutorials, the theory is applied to students business project, and teams will receive feedback. Students also discuss their progress through peer-review and in the form of written reports and/or oral presentations.

### Toetsvorm

Team report and individual essay.

### Literatuur

Selection of academic articles.

## Capita Selecta Political Science

<b>Vakcode</b>	S_CSps ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. P.J.M. Pennings
<b>Examinator</b>	dr. P.J.M. Pennings
<b>Docent(en)</b>	dr. P.J.M. Pennings
<b>Lesmethode(n)</b>	Werkgroep
<b>Niveau</b>	300

### Doel vak

Selfstudy of classical texts in political science and writing of an academic individual paper which represents a critical and analytical reflection of the materials that have been studied.

### Inhoud vak

Students will make a selection of readings that fit their research question.

To support this task, a reading list is compiled that contains classics of

political science and covers central themes in the discipline, such as; Democracy, International Relations, International Political Economy, International Security,

Political Theory, Political Parties and Party Systems, the Welfare State, Justice. On the basis of their chosen readings students will write an academic paper and will discuss their progress in class and (if feasible) in smaller (peer review) groups.

### Onderwijsvorm

Self study.

### Toetsvorm

An academic paper of 2.500-3.500 words (+/- 10%) (excluding title page, table of

content, bibliography etcetera).

The paper should contain at least a description of the following elements (if applicable): the theoretical perspectives of the authors, the definitions and concepts they use, the applied research methods, the main results of the analysis and the core arguments of the authors.

In addition the paper should contain a well structured and well argued assessment / review of the elements discussed above.

Finally, the depth of analysis, precision of the argumentation, the level and quality of language and style, as well as technical aspects such as correct use of references and bibliography – which should adhere to the guidelines of the Writing Guide Political Science - will be taken into account.

### Literatuur

A reading list will be posted on Blackboard.

### Doelgroep

Bachelorstudents and exchange students.

The course is part of the English Minor Political Science (level 300)

## Case Lab

<b>Vakcode</b>	E_EOR3_CL ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. G.T. Timmer
<b>Examinator</b>	prof. dr. G.T. Timmer
<b>Lesmethode(n)</b>	Werkgroep
<b>Niveau</b>	300

### Doel vak

Learn how to model a business problem in such a way that:

- the resulting models are simple enough to allow for analyses and optimization and
- are close enough to reality to make the results practically relevant.

Deepening the understanding of optimization methods through hands on application.

Practice the communication with - and the presentation of results to - business owners.

### Inhoud vak

An essential part of the Operations Management program is to expose the students to actually apply the knowledge they have on modelling and optimization techniques using the computer. During the course, students work together in small groups on selected cases that originate from practice.

At the start, it is not clear how optimization techniques can be used to improve the business process that is central in the case. Nor is it clear which optimization techniques should be chosen.

Interpreting the business process and modelling it in a way that selected optimization techniques can be applied successfully is central

in “solving” the cases.

### **Onderwijsvorm**

Group discussions on (intermediate) reports of the groups, with input from both the students from other groups as well as from the teacher, also giving directions for next steps in the research, are combined with background information by the teacher on models and techniques that could be relevant for the cases at hand.

### **Toetsvorm**

Research reports – team assessment  
Oral examination – individual assessment

### **Literatuur**

Dedicated articles and background information on the problems that are studied in the cases.

### **Aanbevolen voorkennis**

The cases are set up such that the “modeling” requires the knowledge of various optimization techniques and/or less technical skills to understand and deal with business processes. Therefore, both BA/IE students with a mathematical modeling interest as well as OR/AM students can participate, since they will work together in teams combining knowledge and skills.

## **Case Study: A Modelling Competition**

<b>Vakcode</b>	E_EOR3_CSMC ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L.F. Hoogerheide
<b>Examinator</b>	dr. L.F. Hoogerheide
<b>Lesmethode(n)</b>	Hoorcollege

### **Doel vak**

This course in the minor Applied Econometrics is targeted at both econometrics and non-econometrics students. The objectives are to work together in a group, to describe methods and results in a report and presentation, to learn to perform empirical research and to apply the material of the courses in the periods 3.1 and 3.2 of the minor Applied Econometrics.

### **Inhoud vak**

Case studies are carried out by teams of a heterogeneous group of students, coming from different study backgrounds. The students must write case reports and present their results. The groups compete to come up with the best specification of an econometric model.

### **Onderwijsvorm**

Lecture.  
Working groups of students.

**Toetsvorm**

Presentation and written report.

**Literatuur**

Selection of articles and papers.

**Vereiste voorkennis**

The courses of periods 3.1 and 3.2 in the Minor Applied Econometrics.

## Cognitive Neuroscience

<b>Vakcode</b>	AB_1056 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Aard- en Levenswetenschappen
<b>Coördinator</b>	dr. S. van der Sluis
<b>Examinator</b>	dr. S. van der Sluis
<b>Docent(en)</b>	prof. dr. S. Spijker, dr. H.K.E. Vervaeke, dr. S. van der Sluis, M. Loos
<b>Lesmethode(n)</b>	Practicum, Computerpracticum, Werkgroep, Hoorcollege
<b>Niveau</b>	300

**Doel vak**

Introduction to the field of cognitive neuroscience: understanding the biological mechanisms underlying cognitive processes such as learning and memory, discussing recent developments in the field with leading scientists, and acquiring knowledge on how the brain and cognitive abilities are measured.

**Inhoud vak**

In the kick-off of this Minor, you will learn the basics of cognitive neuroscience through a series of introductory lectures on brain function and (dysfunctional) cognitive behavior. More specifically, we will teach you the structure and function of the major building blocks of the brain ranging from single cells to neuronal networks and from emotion to motor control. We combine workshops and keynote lectures to discuss recent advances in the field of learning and memory, sleep, cognition and consciousness. Finally, you will experience various technical approaches to measure the brain (e.g., histology) and cognitive behavior in hands-on practicals.

**Onderwijsvorm**

Lectures 25 hours 44% 2.6 ECTS  
 Workshops 16 hours 28% 1.7 ECTS  
 Practicals 6 hours 11% 0.7 ECTS  
 Keynote lectures 8 hours 14% 0.8 ECTS  
 Quiz 2 hours 3% 0.2 ECTS

Total 57 hours 100% 6.0 ECTS

**Toetsvorm**

Written exam & assignments

## Literatuur

Recent literature, to be announced at the start of the course.

Foundations of Behavioral Neuroscience

Carlson, Neil R.

(9th edition)

Exam material:

CH2, CH3, CH5, CH6 (pg. 136 - 146), CH7 & CH12

## Doelgroep

Open to students from all educational backgrounds (e.g., exact, social, life and economic sciences) with an interest in the brain and mind.

## Overige informatie

Coordinators: Sophie van der Sluis and Christiaan de Kock.

No special requirements to be met.

Part of minor Brain and Mind. This minor course requires a minimum of 25 participants to take place.

## Cognitive Neuroscience (UM)

<b>Vakcode</b>	P_UCOGNEUS ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. D.J. Heslenfeld
<b>Examinator</b>	dr. D.J. Heslenfeld
<b>Docent(en)</b>	dr. D.J. Heslenfeld
<b>Lesmethode(n)</b>	Hoorcollege

## Overige informatie

Language: tuition is in English

## Collective Intelligence

<b>Vakcode</b>	X_401047 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. E.W. Haasdijk
<b>Examinator</b>	dr. E.W. Haasdijk
<b>Docent(en)</b>	dr. E.W. Haasdijk
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

## Doel vak

The overall aim of this course is to provide an in-depth study of a range of ideas, theory, and techniques used in Collective Intelligence.

The module will be oriented towards (1) the modelling of real-life (biological) collective systems (Artificial Life) and (2) the application of ideas and principles from natural Collective Intelligence and evolution to computer science in the areas of optimisation, intelligent agents, and engineering, and feedback to the biological sciences. There is a substantial practical element to the module with the students gaining experience in developing collective intelligence models.

### **Inhoud vak**

#### Aims

To enable students to:

- develop skills in the modelling Collective Intelligent systems (particularly, Artificial Life) through use of appropriate programming languages, tools and methodologies;
- investigate the application of collective intelligence techniques to optimization, to understanding biological systems, and to agent modelling;
- appreciate relevant current research topics in the theory and practice of Collective Intelligence and Artificial Life;
- appreciate a range of advanced ideas and techniques modelling the properties of living systems and the exploitation of these techniques in computer science and its applications.

#### Learning Outcomes

Knowledge and Understanding: Successful students will typically have knowledge and understanding of a variety of Collective Intelligence techniques and methods applicable across domains ranging from molecular computational biology and evolution of agents to behaviour-oriented and social robotics.

#### Skills and Attributes

Successful students will be able to critically evaluate some recent Collective Intelligence / Artificial Life paradigms for building agent systems and modelling biological systems.

### **Onderwijsvorm**

Lectures and intervision meetings.

### **Toetsvorm**

Assignment and written report in teams of 3 students

### **Literatuur**

There is no set textbook for the course; a collection of papers will be made available

### **Doelgroep**

3CS, 3IMM, 3LI

## Colloquium I

<b>Vakcode</b>	E_EOR1_COL1 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	0.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.



<b>Coördinator</b>	dr. C.S. Bos
<b>Examinator</b>	dr. C.S. Bos
<b>Lesmethode(n)</b>	Hoorcollege

### Doel vak

Introduceren, verduidelijken, verdiepen, en uitbreiden van het materiaal uit de overige cursussen; het helpen bij het beter studeerbaar maken van de richting Econometrie.

### Inhoud vak

Onder andere

- Gebruik van VUNet/Rooster/BlackBoard
- Gebruik van de bibliotheek, de index, journals en boeken
- Studiebegeleiding: Ken je tutor/mentor/afdeling, en omgekeerd.
- Introductie wetenschappelijk schrijven
- Data-centrum
- Career-services/OSCAR
- Introductie LaTeX
- Introductie matrix-georiënteerd programmeren
- De afdeling: Onderzoek en de link naar de vakken
- Alumni/werkgevers en hun zicht op econometrie

### Onderwijsvorm

Lectures/tutorials

### Toetsvorm

Geen directe toetsing. Aanwezigheid wordt bijgehouden; aanwezigheid bij tenminste 70% van de sessies geeft toegang tot het examen van het vak 'Introduction to Econometrics, Operations Research and Mathematical Economics'.

## Colloquium II

<b>Vakcode</b>	E_EOR1_COL2 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	0.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. C.S. Bos
<b>Examinator</b>	dr. C.S. Bos
<b>Lesmethode(n)</b>	Hoorcollege

### Doel vak

Zie Colloquium I

### Inhoud vak

Zie Colloquium I, voortzetting

### Onderwijsvorm

Lectures/tutorials

### Toetsvorm

Geen directe toetsing. Aanwezigheid wordt bijgehouden; aanwezigheid bij tenminste 70% van de sessies geeft toegang tot de assignments/het examen

## Comparative Political Research

<b>Vakcode</b>	S_CPR ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. P.J.M. Pennings
<b>Examinator</b>	dr. P.J.M. Pennings
<b>Docent(en)</b>	dr. P.J.M. Pennings, dr. H.J.M. Schoonvelde
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

This course introduces undergraduate students to the field of Comparative Political Research by placing particular focus on the following aspects. This course:

- provides students an overview of the central debates within Comparative Political Research.
- teaches students to critically evaluate the premises of theories and the comparative method.
- trains students to set up a research design. Students are familiarized with key methodological issues such as internal and external validity, conceptualization, operationalization, and case- selection.
- teaches students the basic skills necessary for performing comparative research across a number of cases (e.g. countries).
- teaches students how to apply the comparative method in qualitative and quantitative research, to think about the advantages and disadvantages of both types of research, and how they can complement each other.

### Inhoud vak

- The course will be taught in the form of lectures and tutorials.
- The lectures introduce students to the basics of Comparative Political Research by addressing four central debates within the discipline (Esping-Andersen; Lijphart; Lipset; Rokkan)
- Each of the four debates is evaluated in an assignment which is discussed in the tutorials. There are individual, as well as groups assignments. Groups will comprise +/- 4 students.
- The tutorials provide students with the opportunity to discuss their preliminary answers to the assignments. The more students prepare and participate in the tutorials, the more feedback they receive in return.
- The course exists of two parts, each with a different focus. Whereas part I teaches students how to assess the quality of existing research, part II also trains students to perform some empirical research themselves.

### Onderwijsvorm

One lecture and one tutorial per week. Tutorials can be provided as an office hour per subgroup in which feedback is given on the assignments.

### Toetsvorm

Written assignments.

### Literatuur

The literature will be downloadable (via JStore, E-book or provided thru BlackBoard).

### Doelgroep

Bachelor students Political Science and students of the Pre-Master Political Science.

### Overige informatie

Each week one lecture and one tutorial (and/or feedback by appointment).

## Complexe Analyse

<b>Vakcode</b>	X_400386 (400386)
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. O. Fabert
<b>Examinator</b>	dr. O. Fabert
<b>Docent(en)</b>	dr. O. Fabert
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

### Doel vak

De cursus beoogt enerzijds een inleiding te geven in de theoretische grondslagen van de complexe analyse en anderzijds vaardigheid te verschaffen in het oplossen van vraagstukken zoals het berekenen van integralen en het sommeren van reeksen.

### Inhoud vak

Tijdens het college worden de volgende onderwerpen behandeld:

- complex differentiëren en Cauchy-Riemann differentiaalvergelijkingen
- complexe integratie en de stelling en integraalformule van Cauchy
- elementaire eigenschappen van analytische functies
- formulering en bewijzen met windingsgetallen
- singulariteiten, Laurent-ontwikkeling, residuenstelling
- toepassingen op gewone integralen
- vergezicht op analytische getaltheorie

### Onderwijsvorm

Hoorcollege en werkcollege.

### Toetsvorm

Twee schriftelijke deeltentamens (40% + 40%, aan het einde van perioden 4 en 5), vier inleveropdrachten (20%).

### Literatuur

Churchill, R. V., & Brown, J. W.: Complex variables and applications. Ninth edition, 2014, McGraw-Hill Book Co., New York

### Aanbevolen voorkennis

**Doelgroep**

2W

## Complexe dynamische systemen

<b>Vakcode</b>	X_405093 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

**Inhoud vak**

<https://studiegids.uva.nl/xmlpages/page/2016-2017/zoek-vak/vak/29921>

**Doelgroep**

3W

**Overige informatie**

Aanmelding via <https://www.sis.uva.nl> tot 4 weken voor aanvang van het semester is verplicht.

Course registration at the UVA is compulsory via <https://www.sis.uva.nl>

## Computational Econometrics

<b>Vakcode</b>	E_EOR3_CE ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L.F. Hoogerheide
<b>Examinator</b>	dr. L.F. Hoogerheide
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

**Doel vak**

This course in the minor Applied Econometrics is targeted at econometrics students. The objective is to acquaint the student with advanced computational methods and applications thereof to econometric problems, mainly in the Bayesian framework.

**Inhoud vak**

This course will cover computer-intensive methods in econometrics, including simulation-based methods for Bayesian econometrics such as Markov chain Monte Carlo and Importance Sampling.

**Onderwijsvorm**

Interactive lectures and exercises in the computer lab.

**Toetsvorm**

Final written exam – Individual assessment. And homework exercises.

**Literatuur**

Peter M. Lee (2012). Bayesian Statistics: An Introduction. 4th Edition. Wiley.

**Aanbevolen voorkennis**

Programming, Econometrics I, Numerical Methods.

## Computational Finance

<b>Vakcode</b>	E_EOR3_CF ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. B.F. Heidergott
<b>Examinator</b>	prof. dr. B.F. Heidergott
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

Student will be introduced to the theory of stochastic processes that are important in modeling financial products.

Students learn how to translate a problem from finance into an appropriate feasible stochastic simulation model.

Students learn how to apply optimization and simulation techniques for evaluating options and performing sensitivity analysis.

Students learn the application of stochastic simulation in the evaluation of Greeks.

**Inhoud vak**

This is an introductory course in stochastic simulation in finance. The course contains a guest lecture from ORTEC Finance addressing the application of the discussed techniques in industry.

**Onderwijsvorm**

Combined lectures and tutorials

**Toetsvorm**

Final exam – Individual assessment

Individual assignment - Individual assessment

**Literatuur**

P. Glasserman. Monte Carlo Methods in Financial Engineering, Springer 2003.

**Aanbevolen voorkennis**

Analysis, basic probability theory, basic programming

**Overige informatie**

The course is suitable to be taken in an exchange program

## Concurrency & Multithreading

<b>Vakcode</b>	X_401031 (401031)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	prof. dr. W.J. Fokkink
<b>Examinator</b>	prof. dr. W.J. Fokkink
<b>Docent(en)</b>	prof. dr. W.J. Fokkink
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

### Doel vak

This course provides a comprehensive presentation of the foundations and programming principles for multicore computing devices.

Specific learning objectives are:

- \* To provide insight into fundamental notions of multicore computing and their relation to practice: locks, read-modify-write operations, mutual exclusion, consensus, construction of atomic multi-reader-multi-writer registers, lost wakeups, ABA problem.
- \* To provide insight into algorithms and frameworks for multicore computing and their application in multi-threaded programs: mutual exclusion algorithms, spin locks, monitors, barriers, AtomicStampedReference class in Java, thread pools in Java, transactional memory.
- \* Analyzing algorithms for multicore computing with regard to functionality and performance: linearizability, starvation- and wait-freeness, Amdahl's law, compute efficiency gain of parallelism.
- \* Mastering elementary datastructures in the context of multicore computing: lists, queues, stacks.
- \* Programming in multi-threaded Java, and performing experiments with such programs.

### Inhoud vak

The course consists of the following topics: Shared memory, mutual exclusion, synchronization operations, concurrent data structures, scheduling, transactional memory, and a multithreaded programming assignment.

### Onderwijsvorm

4 hours per week HC, 4 hours per week WC.

### Toetsvorm

The written exam counts for 75% and the programming assignment for 25% of the final mark.

Both for the written exam and the programming assignment at least a 5.0 must be obtained (and the overall average mark should be at least 5.5).

Only students that achieved at least a 3.0 for their initial programming assignment are offered a resit opportunity for this assignment.

### Literatuur

Maurice Herlihy, Nir Shavit, The Art of Multiprocessor Programming, Morgan Kaufmann, 2008.

## Aanbevolen voorkennis

Datastructures & Algorithms

Programming in Java

## Doelgroep

3CS

## Overige informatie

The homepage of the course is at <http://www.cs.vu.nl/~tcs/cm/>

The lectures and written exam of the BSc and MSc variant of Concurrency & Multithreading coincide. The difference is that the BSc variant has a smaller programming assignment than the MSc variant.

## Consumer Behavior

<b>Vakcode</b>	E_EBE3_CBEH ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. K.M.T. Millet
<b>Examinator</b>	dr. K.M.T. Millet
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

## Doel vak

At the end of this course you will be acquainted with the psychological theories, concepts, methods, and research findings central to the study of consumer behavior (Knowledge). You will be able to understand consumer decisions from different perspectives as well as to apply theoretical frameworks in different settings (Academic skills). In addition, you will be able to apply these theories in order to develop effective marketing strategies to influence thinking and behavior of consumers (Bridging theory and practice). Critical reading of and reflection on scientific articles will give you a good sense of how behavioral experiments are set up and analyzed. Moreover you will actively participate in experimental research as well as develop the skills needed to understand experimental research, and interpret its experimental results (Research skills).

At the end of the course students will be able to:

- explain important concepts and theories in the study of consumer behavior;
- identify different drivers of consumer decisions;
- apply fundamental psychological theories to real-world consumer decision situations;
- interpret graphical output of simple experiments;
- explain the methodology of academic articles as discussed in class.

## Inhoud vak

We are consumers, every day, every moment of the day. We consume food, drinks, education, and television programs. It is however not always

easy to understand or predict the behavior of consumers. Why do consumers choose one car or holiday destination over the other? How are advertisements processed and when are they effective? Are preferences stable or easily malleable? For successful marketing management and strategy, it is essential to get an understanding of the behavior of consumers. After all, marketing begins and ends with the consumer, from determining consumer needs to finally providing and maintaining consumer satisfaction. The course introduces you to some important psychological theories on memory, learning, perception, attitude, motivation, identity and social influences. We do not only focus on “big theories”, but also study specific articles from top-notch journals in the field, thereby illustrating how research in this field is done, how this contributes to our knowledge on consumer decisions as well as to develop critical thinking.

### Onderwijsvorm

Lectures.  
Tutorials.

### Toetsvorm

Written exam – Individual assessment.  
(Interim) Assignment(s) – Group assessment.

### Literatuur

A customized handbook (tba) will be available before the start of the course.  
Additional readings (tba) will be announced on Blackboard.

### Vereiste voorkennis

None.

### Aanbevolen voorkennis

None.

## Consumer Science for Online Commerce

<b>Vakcode</b>	E_IBA3_CSOC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.H.P. Kleijnen
<b>Examinator</b>	dr. M.H.P. Kleijnen
<b>Docent(en)</b>	dr. M.H.P. Kleijnen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

Academic skills:

- analysis – ability to examine and understand problems from different perspectives
- argumentation – ability to put forward well-founded, substantiated points of view, both in spoken and written format

Knowledge:



- Ability to make connections between theories, models, and concepts
- Acquire specialized, in-depth knowledge and insights in the field consumer science in online commerce

Bridging theory and practice:

- applying theoretical knowledge in a specific business situation
- experience real-life business problems

Social skills:

- ability to present on substantive issues related to consumer science in online commerce
- ability to work in a team and reflect on your own role in the team

### **Inhoud vak**

The Internet and digital media have transformed marketing and business since the first website went live a long time ago. More than 20 years later over one billion people around the globe regularly use the web to find products, entertainment and soulmates. Consumer behavior and the way companies market to both consumers and businesses have changed dramatically. To succeed in the future, organizations will need marketers, strategists and agencies with up-to-date knowledge about the digital consumer and his or her behavior. Digital marketing is an exciting area to be involved in, since it poses many new opportunities and challenges yearly, monthly and even daily. Innovation is a given with the continuous introduction of new technologies, new business models and new communication approaches. How consumers deal with these changes and apply them to their personal lives becomes more important for marketers to understand.

In this course you are inspired and challenged to discover the possibilities and consumer response to digital developments. Typically, topics may evolve around issues such as: (online) customer journeys; different phases and touch points in the journey; contextual influences (assortments, web design, product presentation); social interactions (social media, online reviews); and mobile commerce.

The classes are highly interactive. This means, that it will require a high degree of participation and preparation from the students.

### **Onderwijsvorm**

Lectures  
Tutorials

### **Toetsvorm**

Assignment – Individual assessment  
Group project assignment – Group assessment  
Group and Class participation – Individual assessment

### **Literatuur**

Required readings consist of articles and will be announced via Blackboard (together with other required materials).

### **Vereiste voorkennis**

N/A

### **Aanbevolen voorkennis**

A basic understanding of marketing principles and business-related courses

## Overige informatie

N/A

## Contemporary Perspectives on HRM Theory

<b>Vakcode</b>	E_IBK3_CPHRM ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. D.A. Driver-Zwartkruis
<b>Examinator</b>	dr. D.A. Driver-Zwartkruis
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

Academic Skills: First, students will be able to understand complex organizational problems from an interdisciplinary perspective. Second, students will be able to identify the gap between HR theory and HR practice, and thereby, formulate research problems.

Knowledge: First, students will acquire knowledge of the history, philosophy, and the contemporary developments in the study of Human Resource Management by reviewing scientific articles. Second, students will gain an appreciation for theories which (should ) inform the HR professional in playing a strategic role in assisting management with syncretizing organizational goals and employee talent. Third, students will gain awareness of the broader society and the role of the HR professional in assisting management with understanding the significance of HR theory, societal realities in the HR Planning process. Fourth, students will develop an appreciation of the interaction between organizations' financial capacity and the influence of societal realities including economic conditions, international treaties, labor market situations, and the demographic composition, and how these realities impinge on the HR decision making process.

Bridging Theory and Practice: Based on empirical data gained from a review of the literature, students will identify relevant HR theory and HR practices to address complex organizational problems from an interdisciplinary perspective which includes workplace diversity a.o. gender, sexuality, ethnicity, culture and demographic composition. Additionally, students will understand the need for theories which inform Ethics and Corporate Social Responsibility (CSR) practices in the workplace.

### Inhoud vak

Human Resource Management is the design of formal systems in an organization to ensure the effective and efficient use of human talent. These formal systems should generate activities that involve the utilization and development of an organization's resources which include personnel, technical equipment, and policies. Thereby, an organization is equipped with essential elements to facilitate individual, groups and teams with achieving stated goals. The study of HRM is informed by the behavioral and social sciences which includes psychology, economics,

law, anthropology and sociology.

In this course emphasis is given to the HR theory which underpins HR practices. Therefore, special attention is given to identifying the gap between HR theory and HR practices in an organization context, this will include contemporary topics such as Workplace Diversity, Ethics and Corporate Social Responsibility (CSR). Thus, a variety of theories will be explained.

### Onderwijsvorm

Lectures  
Tutorials

### Toetsvorm

Examination -60% of final score

Case study- in teams 40% of final score

### Literatuur

Literature will be posted on Blackboard

### Aanbevolen voorkennis

BK 1.5 HRM & OB 3.4 Contemporary Perspectives on OB Leading Change

## Contemporary Perspectives on OB: Leading Change

<b>Vakcode</b>	E_IBK3_CPOB ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. O.N. Solinger
<b>Examinator</b>	dr. O.N. Solinger
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

Leadership is a fundamental aspect of human organization. It occurs quickly and automatically across all cultures and levels of complexity. Unfortunately, even though transformational leadership is widely studied, much of our understanding remains disjointed. In this course we connect the phenomenon of transformational leadership to study how it functions in the context of planned organizational change. The purpose of this course is 1) to help you generate a clearer understanding of the leadership process and how it connects with mobilizing people to change, 2) develop your own leadership skills (once we know what we need to develop), and 3) provide a roadmap for your future as an effective transformational leader.

Learning Outcomes.

- Knowledge: Student is familiar with the generative processes that gives rise to leadership, planned organizational change, and the connection between these two.
- Bridging Theory & Practice: Student is familiar with the practical problems which business leaders and change consultants face when managing organizational change.
- Self-awareness about one's tendencies as a leader and follower in

different organizational change situations.

- Social skills: the 'discursive ability' to motivate and mobilize others, awareness of verbal and non-verbal signaling.
- Research skills: the student is able to gather quantitative survey data, analyze the data (using SPSS) and effectively report on the results
- Academic skills: the student is able to systematically analyze a practical change-related problem and come up with a plan of action.

### **Inhoud vak**

The first part of this course is an overview of the various definitions of leadership, including the many styles of leadership that are relevant to organizational change (i.e., evolutionary, charismatic, transformational, ethical leadership). In the process you will learn the boundaries and generative processes that give rise to leadership and the different levels of analysis that apply. For instance, you will learn that the ultimate why of leadership is quite different from the proximate how of leadership. This process will help us generate a general definition of leadership that integrates factors you will need to become an effective transformational leader. For example, you will learn about the different phases of leadership, how it can mobilize people, but also how it may finally lead to a state of disenchantment and disengagement. You will also learn which personal and contextual factors influence tie into the leadership process. This will help you maximize the good of charisma and ideology and avoid its dark side to maintain trust and maximize followership investment. You will also gain a deeper appreciation for the role leadership has on followership attitudes and motivation.

#### 1. Introduction to leadership theory

- Leadership styles and the generative processes of leadership.

#### 2. The first, precarious phase of transformational leadership

- The (moral) courage of speaking up: Leadership as instigating a social movement

- Leadership taking hold: When change becomes a cultural convention.

#### 3. (Overcoming) disenchantment in later phases of leadership

- Understanding some of the fundamental processes which impact on the sustainability of change initiatives (e.g., institutionalization, assimilation, hypocrisy, corruption).

The second part of this course focuses on change as a process, that is, a journey. With the Engage! textbook as guide, you will learn to think about organizational change as a risky, adventurous journey with an uncertain outcome (for leaders and followers alike). That said, change has a number of recognizable phases that each offer unique challenges to change leaders. The second part also involves an overview of employees affective/attitudinal reactions of change recipients over time. You will learn about best practices of change management and the Theory of Planned Behavior as integrative framework. Last but not least, you will learn about rhetorical practices (framing, stories, narratives, vision) in change implementations and their intimate connection with charismatic-transformational leadership.

#### 4. Change as a perilous journey

- Phases of change, obstacles, overcoming obstacles

#### 5. Attitudinal reactions to organizational change

- Different types of organizational change (e.g., cost-focused vs. people focused and combinations) and reaction pattern to these changes

#### 6. Best practices in leading change

- John Kotter; Theory of planned Behavior; behavior change

#### 7. Rhetorical strategies of the transformational leader

The third part of this course is organized around application. Some leadership qualities are important across situations whereas other qualities are context-specific. For example, hierarchy and dominance may not always be the best strategy. For this course we will focus on a number of important leadership contexts that you will consistently encounter throughout your career. You will first learn about these dynamics and then in groups you will practice your ability to lead across different change contexts. You will evaluate yourself and be evaluated by others to supply you with comprehensive feedback. The primary goals are

8. Understanding yourself as a leader,
9. Identifying strengths and weaknesses across contexts (e.g., you may perform better in one situation relative to another),
- 10 Practice improving your leadership (e.g., rhetorical ability) in a variety of organizational contexts.

### Onderwijsvorm

Lectures  
Tutorials

### Toetsvorm

Written exam – Individual assessment  
Assignment(s) – Individual assessment  
Assignment(s) – Group assessment  
Class Participation

### Literatuur

This course is taught article based, but also contains the Engage! booklet focused on the implementation of change in practise. Article readings will be announced on Blackboard. The Engage! booklet will be available in print from the VU bookshop.

### Aanbevolen voorkennis

BK:  
1.5 HRM & OB; 2.5 BRM II - Quantitative  
IBA:  
2.1 HRM & OB; 2.4 HRM Practices - A Global Perspective; 2.4 BRM I – Quantitative

## Corporate Governance and Accountability

<b>Vakcode</b>	E_EBE3_CGA ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J.P. Mendoza Rodriguez
<b>Examinator</b>	dr. J.P. Mendoza Rodriguez
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

- The importance, meaning and inter-relations between Corporate Governance and Accountability;

- An understanding of the roles and responsibilities of the various stakeholders in a private or public organization;
- The content of the vital Corporate Governance codes and the substantial similarities and differences between various codes;
- The way in which risk management can be embedded into the internal control structure of the organization;
- An understanding of the limitations of Corporate Governance codes with respect to ensuring “proper” management;
- Understanding general legal elements of Corporate Governance like preventing acquisitions, remuneration, liability.

### **Inhoud vak**

Corporate Governance is the process and structure used to direct and manage the business and affairs of the corporations with the objective of enhancing shareholder value, which includes ensuring the financial viability of the business.

In this course we focus on the financial (accountants view) and legal view on Corporate Governance. To understand major causes of scandals we view the roles of all relevant stakeholders for a company relevant for corporate governance. And you learn to apply Enterprise Risk Management which is a major focus area to prevent/ discover possible governance issues. And to acknowledge (un-)ethical behavior in a corporate environment. We also discuss relevant legal issues important to understand and analyze corporate governance cases preventing acquisitions, remuneration, liability etc.

Several important corporate governance cases like the split up of ABN Amro, the bankruptcy of Imtech, the fraud scandals of Tyco and Worldcom and cases regarding mayor shareholders like KPN will be analyzed in detail so that you can understand in more detail the reason why good corporate governance is so important to support economic efficiency, sustainable growth and financial stability.

### **Onderwijsvorm**

Lectures.  
Tutorials.

### **Toetsvorm**

Written exam – Individual assessment.  
(Interim) Assignment(s) – Individual assessment.  
(Interim) Assignment(s) – Group assessment.  
Mandatory attendance tutorials.

### **Literatuur**

Clarke, T., & Branson, D. M. (2012). The SAGE Handbook of Corporate Governance. Sage Publications. Students have free access by logging into the VU library.

Additional reading will be announced on Blackboard.

### **Vereiste voorkennis**

None.

## **Creative Writing**

<b>Vakcode</b>	L_NNBAALG001 ()
<b>Periode</b>	Periode 2

<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. J.H.C. Bel
<b>Examinator</b>	dr. J.H.C. Bel
<b>Docent(en)</b>	dr. J.H.C. Bel
<b>Lesmethode(n)</b>	Werkcollege
<b>Niveau</b>	200

### **Doel vak**

Het streven is studenten inzicht te geven in literaire technieken zodat ze zelf fictie leren schrijven van een behoorlijk technisch niveau. Het gaat hierbij om scheppend proza. Aan het eind hebben de studenten een afgeronde fictionele tekst geschreven, hetzij een kort verhaal, hetzij een afgerond romanfragment. Studenten krijgen inzicht in hoe fictie werkt vanuit het perspectief van de maker, zodat ze zich kunnen bekwamen in het vak en de kunst van het schrijven.

### **Inhoud vak**

In een reeks colleges wordt de student uitleg gegeven van verschillende technieken die in fictionele teksten worden aangewend. Dat gebeurt aan de hand van de opgegeven literatuur; verder door middel van oefeningen; en tot slot door middel van het zelf schrijven van een fictionele tekst die elke week in omvang groeit. Er wordt uitleg gegeven over en geoefend met essentiële literaire technieken en tactieken. De aandachtspunten zijn daarbij:

- literair taalgebruik: wat is dat en hoe werkt dat; wat maakt een metafoor succesvol; hoe zijn verschillende taalregisters (bijvoorbeeld het schakelen van meer verheven taalgebruik naar volkstaal en terug) van invloed op de inhoud van wat wordt verteld;
- literaire details: wat voor details (observaties) zijn effectief in een literaire tekst en hoe werkt dat precies;
- perspectief: wat is dat en hoe werkt het; hoe maakt een schrijver de keuze tussen de ik-vorm en de hij-vorm of waarom kiest hij eventueel voor een ander perspectief;
- het schrijven van dialogen;
- het schrijven van monologen in proza: de monologue intérieur en de stream of consciousness;
- de opbouw van een plot; en tot slot:
- wat is een literair personage eigenlijk.

### **Onderwijsvorm**

De docent geeft gedetailleerde toelichting bij de bovengenoemde onderwerpen. De kennis die de student zo verkrijgt, zal moeten worden toegepast in het verhaal of het romanfragment waaraan de student werkt. De student krijgt feedback op zijn tekst. De eerste bijeenkomst is inleidend en informerend, tijdens de laatste bijeenkomst worden de verhalen en romanfragmenten ingeleverd (de afgesproken deadline is onverbiddelijk) en wordt er een tentamen afgenomen. De helft van de overblijvende werkgroepbijeenkomsten zal theoretisch van aard zijn en in de andere helft zal praktisch worden ingegaan op de groeiende teksten. Bovendien zullen er tijdens de bijeenkomsten oefeningen worden gedaan op het gebied van de schrijftechniek en zullen er literaire fragmenten worden gelezen, besproken en toegelicht. Bovendien vindt er een excursie plaats naar een literaire uitgeverij.

### Toetsvorm

- 1) Actieve participatie en volledige aanwezigheid; de student moet mee kunnen discussiëren en er blijk van geven dat hij met inzicht kan praten over de in de oefeningen behandelde schrijftechnieken. Onder actieve participatie wordt ook verstaan dat de student zich aan de opgegeven deadlines houdt en dat hij / zij de tussentijdse (schriftelijke) opdrachten maakt.
- 2) Een afgeronde fictionele tekst van ongeveer drieduizend woorden - ook als er sprake is van een romanfragment moet er worden getoond dat er naar een zekere afronding kan worden toegewerkt.
- 3) Een tentamen waarin fictietechnieken moeten kunnen worden herkend, benoemd en toegepast.

De verdeelsleutel bij het toekennen van het eindcijfer zal zijn:  
afgeronde fictionele tekst 60 %; tentamen 40 %. Aanwezigheid en participatie (1) moeten voldoende zijn.

### Literatuur

Verplicht: James Wood, *How Fiction Works* (Jonathan Cape, London, 2008) of de Nederlandse vertaling *Hoe fictie werkt* (Querido, Amsterdam, 2012); zelf aan te schaffen.

Verder zullen (fragmenten uit) andere boeken worden aangeraden in de loop van de bijeenkomsten.

### Vereiste voorkennis

Het eerste deel van het minorcollege *Meesterwerken* uit de wereldliteratuur moet met succes zijn gevolgd.

### Doelgroep

De minor staat open voor alle studenten van binnen en buiten de VU.

### Overige informatie

Volledige aanwezigheid en actieve deelname zijn verplicht.

## Culture and Citizenship

<b>Vakcode</b>	S_CC ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. A.J. Salman
<b>Examinator</b>	dr. A.J. Salman
<b>Docent(en)</b>	dr. A.J. Salman
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Students gain knowledge of and insight in the differences in perceptions of citizenship and human rights and democracy, both based on ethnography and in the setting of the contemporary celebration of the right to cultural difference. Additionally, they reflect on the dilemmas contained in today's controversies on, on the one hand, fostering and respecting cultural difference, and on the other hand the struggle for human rights universals.



### **Inhoud vak**

It is, some claim, the right of an ethnic or religious community to self-govern the group and administer internal justice in accordance with its traditions. And it is the right of any nation-state to be sovereign in internal affairs. However, others assert, it is also the entitlement of all human beings to enjoy human and citizen rights, irrespective of cultural or religious particularities. In these conflicting claims, the theme of this course is summarized.

In this course we will reflect upon the uneasy merger of the vocabulary of the judiciary, the language of 'rights' and universal ethics on the one hand, with the idiom of national or minority cultural traditions and identities on the other. First, we will look into different 'cultured' perceptions of notions such as (human, citizen) rights, 'good' politics and politicians. We will give special attention to the notion of democratic rule as a universal value – or not. The cases will illustrate that no such thing as a shared interpretation exists on what rights and democracy exactly mean. Next, we will look into current national, cultural and ethnic pleas to be entitled to different views and practices with regard to (individual) freedoms and political rule. Finally, we will reflect upon the consequences of these findings for the universalist claim with regard to democracy and individual human and citizen rights. The course will be anthropological in approach, not anchored in political sciences or law studies.

### **Onderwijsvorm**

Lectures, guest lectures and class discussions.

### **Toetsvorm**

One, possibly two written assignments during the course (15 or 25%), final take home exam (85 or 75%).

### **Literatuur**

A compilation of book chapters and articles; most of which will be digitally available.

### **Doelgroep**

Obligatory course in Minor Development Studies; elective course for students in 2nd year of BSc; optional course for 2nd and 3rd year Bachelor's students and the Exchange Programme.

### **Overige informatie**

This course is open to students from various disciplines who have completed the first year of their Bachelor programme. Students are invited to participate in discussions in class.

## **Current Issues in Transnational Law**

<b>Vakcode</b>	R_CIsTrL ()
<b>Periode</b>	Periode 3
<b>Credits</b>	3.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Rechtsgeleerdheid
<b>Coördinator</b>	prof. dr. G.T. Davies
<b>Examinator</b>	prof. dr. G.T. Davies
<b>Docent(en)</b>	prof. dr. G.T. Davies

<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### **Doel vak**

This course introduces students to selected topics in transnational law which are of particular current importance or interest. Classes are interactive, involving some lectures, but also discussions and exercises. The aim is to help students understand the kinds of law and policy problems which are important at European and International level, and to critically evaluate the responses to these. This prepares the students for advanced courses at masters level, where they may engage with these problems in more detail.

Students will have to read and analyse academic literature and engage in active discussion of current issues, as well as formulating problems and questions in short essay(s). Oral and writing analytic abilities are therefore the major skills advanced in this course.

### **Inhoud vak**

In 2016, the course focused on the following three topics:

- Climate change and transnational law
- Reproductive tourism in the EU: human rights and policy
- Legal issues of geoengineering

The subjects for 2017 will be announced nearer the time, but will be similarly diverse and contemporary.

### **Toetsvorm**

Short paper and presentation. Attendance is compulsory in order to obtain a grade.

### **Literatuur**

Reading will be placed on blackboard nearer the time.

### **Aanbevolen voorkennis**

Exchange students - basics of EU law and integration, good command of English

### **Doelgroep**

Apart from regular students, the course is also available for:

Students from other universities/faculties

Exchange students

Contractor (students who pay for one course)

### **Overige informatie**

The following course objectives are only available in Dutch:

De afgestudeerde bachelor beschikt over een fundamenteel academisch werk- en denkniveau;

-heeft kennis van en inzicht in de kernleerstukken van de hoofdonderdelen van het geldende recht (in het bijzonder het Nederlandse privaatrecht, staatsrecht, bestuursrecht, strafrecht en internationaal en Europees recht), alsmede de systematiek daarvan, met inbegrip van recente ontwikkelingen

-heeft kennis van en inzicht in het internationale en het Europese recht in hun verhouding tot het nationale recht

-heeft elementaire kennis van Engelse juridische terminologie

- beseft dat het recht zich ontwikkelt en manifesteert in een maatschappelijke context
- heeft kennis van de grondslagen van het (Nederlandse) recht, rechtshistorische en rechtsfilosofische aspecten en heeft besef van de eigen aard van de rechtsbeoefening

De afgestudeerde bachelor beschikt over de volgende (juridische) vaardigheden:

#### Analytische vaardigheden

- lezen, begrijpen en analyseren van juridische, rechtswetenschappelijke en rechtstheoretische teksten en betogen, waaronder jurisprudentie en wetgeving
- kritisch reflecteren op regelgeving, rechtspraak en literatuur, onder meer vanuit rechtshistorisch, rechtsvergelijkend en rechtsfilosofisch perspectief; is in staat om te reflecteren op de grenzen van het vakgebied
- reflecteren op de eigen maatschappelijke verantwoordelijkheid in de maatschappelijke context waarin het recht functioneert
- is in staat om juridische argumentatiestructuren te analyseren en op te zetten

#### Probleemoplossende vaardigheden

- selecteren van juridisch relevante feiten uit een feitencomplex
- selecteren van rechtsregels die bijdragen aan het oplossen van een juridische casus
- oplossen van juridische casus, waaronder begrepen hanteren van een systematische aanpak bij het toepassen van rechtsregels op concrete gevallen

#### Communicatieve vaardigheden

- schriftelijk presenteren van een (juridisch) betoog in correct en helder Nederlands
- mondeling presenteren van een (juridisch) betoog in correct en helder Nederlands
- een gefundeerde en beargumenteerde positie innemen in een maatschappelijk, juridisch debat
- met anderen samenwerken om een opdracht binnen een voorgeschreven termijn te voltooien

#### Informatievaardigheden

- op een efficiënte manier juridische bronnen raadplegen en informatie verzamelen uit juridische (digitale) bibliotheken en databestanden, en de waarde, relevantie en kwaliteit van de informatie beoordelen
- op efficiënte wijze relevante ontwikkelingen bijhouden en kennis actualiseren

## Data Analytics

<b>Vakcode</b>	E_EOR3_DA ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. R. Heijungs
<b>Examinator</b>	dr. R. Heijungs
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege

<b>Niveau</b>	300
---------------	-----

### Doel vak

This course teaches the students the importance of data analysis as the process of transforming data into useful information in order to support decision making. It equips the students with the tools, techniques and common practices used in the field of data analytics, including how to obtain, manipulate, explore, model, and present data.

### Inhoud vak

Data analytics is a booming term that is used for the use of large amounts of data to gain knowledge, to optimize operations, and to explore markets. An example is the use of real-time traffic data to analyze vehicle movements, to predict congestions, to find the fastest route, and to schedule maintenance operations. Underlying data analytics is a series of methods and tools that include querying databases, using multivariate statistics, and visualizing high-dimensional data. This course will address theoretical and practical aspects in a number of selected topics relating to data analytics.

The following approaches to data analysis will be covered:

- Templates, write-ups and illustrative examples
- Overview of tools for data analysis
- Obtaining data: Finding data sets and Web scraping, file formats
- Data manipulation techniques: Data quality, reshaping data, appending and joining data sets
- Plotting and visualization: Exploration and presentation
- Exploratory data analysis: Visual inspection, descriptive analytics, insights
- Estimation techniques: Multiple approaches based on assumptions, sampling basics

### Onderwijsvorm

Lectures, tutorials, computer assignments, student presentations

### Toetsvorm

Written exam – individual assessment

Case assignment – individual or team assessment

Participation – individual assessment

### Literatuur

D.T.Larose, Discovering Knowledge in Data: An Introduction to Data Mining, 2nd Edition, Wiley

Extra documents (articles, data sets, weblinks, etc.) will be provided through BlackBoard.

### Vereiste voorkennis

Basic course in statistics

### Aanbevolen voorkennis

Elementary computer skills, handling spreadsheets or programming

## Data Structures and Algorithms

<b>Vakcode</b>	X_400614 (400614)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0

<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. F. van Raamsdonk
<b>Examinator</b>	dr. F. van Raamsdonk
<b>Docent(en)</b>	dr. F. van Raamsdonk
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	200

### Doel vak

To obtain basic knowledge about data structures, algorithmic design, and worst-case time complexity.

### Inhoud vak

Concerning data structures:

Linear data structures:

stacks, queues, linked lists.

Tree-like data structures:

binary trees, binary search trees, heaps, red-black trees or AVL-trees.

Graphs-like data structures.

Hash tables.

Concerning algorithms:

sorting algorithms,

the divide-and-conquer programming paradigm,

dynamic programming,

greedy algorithms,

string matching.

Complexity analysis:

big-Oh notation, worst-case time complexity, amortized analysis.

### Onderwijsvorm

Lectures: 4 hours per week (in total 28 hours).

Exercise classes: 4 hours per week (in total 28 hours).

There is also obligatory practical work.

### Toetsvorm

Two written exams (a mid-term exam and a final exam) which count for 80 % of the final mark.

One or two programming assignments which count for 20% of the final mark.

### Literatuur

Introduction to Algorithms

third edition,

Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein, MIT Press 2009.

### Vereiste voorkennis

Concerning algorithmics:

recursive procedures, arrays, elementary Java.

For instance the course Programming (X-400554) of year I of the Bachelor Computer Science.

Concerning discrete mathematics:

some familiarity with mathematical reasoning in general and induction in

particular.

For instance the course Logic and Sets (X\_401090) of year I of the Bachelor Computer Science.

Moreover elementary knowledge of graphs.

For instance the course Networks and Graphs of year I of the Bachelor Computer Science.

### Doelgroep

2CS, 2BA, 3IMM, 3LI, 3W, 3Ect

## De bijbel als Volksboek

<b>Vakcode</b>	G_BIJVOL ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Godgeleerdheid
<b>Coördinator</b>	prof. dr. A.A. den Hollander
<b>Examinator</b>	prof. dr. A.A. den Hollander
<b>Docent(en)</b>	prof. dr. A.A. den Hollander
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

De student: • kan in grote lijnen een overzicht van de geschiedenis van de Nederlandse bijbelvertalingen schetsen; • kan beschrijven hoe en waarom nieuwe bijbelvertalingen tot bloei zijn gekomen en wat hiervan de consequenties zijn; • is in staat een tekst of een belangrijke historische gebeurtenis/ontwikkeling te analyseren en voor de groep te presenteren.

### Inhoud vak

De Bijbel is het belangrijkste geloofsboek voor christenen, niet alleen voor geleerden en theologen maar voor alle gelovigen. Al vanaf de Middeleeuwen verschijnen dan ook vertalingen van de Bijbel in de volkstaal en wordt de bijbel door gelovigen zelf in hun eigen taal gehoord en/of gelezen. Welke bijbelgedeelten de mensen precies lazen en hoe men van kerkelijke zijde probeerde invloed uit te oefenen op de omgang van gelovigen met de bijbel, verschilde door de eeuwen heen. In deze module zal een overzicht worden gegeven van de bijbelvertalingen die in het Nederlands zijn verschenen, maar wordt ook ingegaan op de receptiegeschiedenis van de bijbel in de Nederlanden.

### Onderwijsvorm

Hoor- en werkcolleges, leesverslagen, presentaties, zelfstandige literatuurstudie. In de module zal zo veel mogelijk met historisch materiaal zelf gewerkt worden. Indien mogelijk zal ook een excursie plaatsvinden.

### Toetsvorm

Schriftelijk tentamen; leesverslagen.

### Literatuur

Paul Gillaerts, e.a. (red.) De Bijbel in de Lage Landen. Elf eeuwen van vertalen (Heerenveen 2015).

## Overige informatie

Deze module maakt deel uit van de minor 'God in Nederland'.

## De netwerksamenleving

<b>Vakcode</b>	S_DNWS ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. G.C.F. Thomese
<b>Examinator</b>	dr. G.C.F. Thomese
<b>Docent(en)</b>	dr. G.C.F. Thomese
<b>Lesmethode(n)</b>	Werkgroep
<b>Niveau</b>	200

### Doel vak

Doel van dit vak is om studenten voor te bereiden op de andere vakken in de minor Minor Netwerken in de Informatiemaatschappij. Na afloop van dit vak:

1. is de student bekend met het netwerkarakter van de moderne samenleving en de rol die moderne communicatietechnologie hierin speelt.
2. is de student bekend met de belangrijkste theoretische benaderingen in de sociaal-wetenschappelijke studie van de netwerksamenleving.
3. kan de student de centrale kenmerken van de netwerksamenleving herkennen in de praktijk en de geleerde theorieën hierop toepassen.

### Inhoud vak

Dit eerste vak van de Minor Netwerken in de Informatiemaatschappij vormt de basis voor de rest van de minor. We behandelen vanuit een sociologisch perspectief de opkomst van informatietechnologieën en de netwerkmaatschappij, en bestuderen verschillende theorieën en opvattingen over de manier waarop (communicatie)netwerken sociale processen beïnvloeden.

We beginnen met een introductie over vragen zoals: wat is de netwerkmaatschappij eigenlijk, hoe is deze opgekomen, en wat was de rol van informatie- en communicatietechnologie hierin? Vervolgens bestuderen we hoe (communicatie)netwerken van invloed zijn op verschillende aspecten van onze maatschappij, zoals de economie, de politiek, (digitale) cultuur en psychologische processen. Deze onderwerpen worden vervolgens verder uitgediept in de andere vakken van de minor.

In het vak 'Sociale Media' wordt dieper ingegaan op de psychologische en sociale processen die een rol spelen bij het gebruik van sociale media, in 'Democratie 2.0' staat de vraag centraal wat de gevolgen zijn van de informatie- en communicatierevolutie voor het gedrag van politici, het gedrag van burgers, en de relaties tussen deze twee, in 'De virtuele organisatie' wordt ingegaan op de consequenties van informatietechnologie op organisatieprocessen, en ten slotte in het 'Analyselab' wordt de minor afgesloten met een intensief programma waarin studenten zelf netwerkdata leren analyseren.

### Onderwijsvorm

Hoorcollege en werkcollege

**Toetsvorm**

Schriftelijk tentamen en tussentijdse opdrachten

**Literatuur**

Wordt later bekend gemaakt.

**Doelgroep**

Studenten Minor "Netwerken in de informatiemaatschappij" (bachelor)

**Overige informatie**

Dit vak is onderdeel van de Minor Netwerken in de Informatiemaatschappij. Deelname aan dit vak is mogelijk zonder de gehele minor te volgen.

**De virtuele organisatie**

<b>Vakcode</b>	S_DVO ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. J.J. Wolbers
<b>Examinator</b>	dr. J.J. Wolbers
<b>Docent(en)</b>	dr. J.J. Wolbers
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

**Doel vak**

Studenten inzicht te geven in de verschillende manieren waarop virtueel organiseren kan worden opgevat. Na afloop van het vak: Kan de student netwerkenmerken van het organiseren binnen en tussen organisaties met elkaar in verband brengen; Kan de student onderzoeksvragen die te maken hebben met verschillende typen van virtueel organiseren onderscheiden; Kan de student theoretische vragen op dit terrein benoemen en aangeven in hoeverre vragen over de onderliggende netwerken op basis van digitaal of op andere wijze verzamelde onderzoeksgegevens kunnen worden beantwoord.

**Inhoud vak**

In dit vak ligt de nadruk op de manier waarop publieke en private organisaties gebruik maken van digitale media om hun activiteiten ongeacht locatie te organiseren. Op verschillende fronten wordt hier snel het begrip virtueel voor gebruikt in combinatie met team, organisatie of wijze van organiseren. In de colleges worden een aantal van deze organisatievormen besproken en in werkcolleges wordt verder uitgediept op welke wijze deze vormen samenhangen met gebruik van informatietechnologieën. Aan het slot van het college wordt ook ingegaan op de vragen die een steeds sterkere verknoping tussen informatietechnologie en organisaties oproept. Een tweede thema dat in het college inzichtelijk gemaakt wordt is de vraag op welke wijze organiseren en organisaties in deze omgeving digitale sporen achterlaten. Deze digitale informatie over relaties tussen en binnen organisaties kan worden gebruikt voor netwerkanalyse. Op deze manier bereidt dit vak dan ook voor op het vak analyselab.



**Onderwijsvorm**

Hoorcollege en werkcollege/practicum; actieve participatie wordt verwacht.

**Toetsvorm**

Paper.

**Literatuur**

Wordt een maand tevoren in blackboard bekend gemaakt en bestaat uit artikelen.

**Aanbevolen voorkennis**

Enige kennis van organisatietheorie en sociale netwerken.

**Doelgroep**

Studenten Minor "Netwerken in de informatiemaatschappij" (bachelor)

**Overige informatie**

In het vak wordt gebruik gemaakt van UCINET.

## Debates in Consulting Research

<b>Vakcode</b>	E_IBK3_DCR ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L.C. Noury
<b>Examinator</b>	dr. L.C. Noury
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

**Doel vak**

Knowledge skills:

Recognize, understand, construct, and critically assess positions in scientific debates expressed in the literature on management and consulting.

Research skills:

Draw on interviews as research approach prevalent in the context of consulting and consulting research.

Academic skills:

Independently develop and deepen an own well-substantiated positioning in relation to a particular contemporary debate based on literature and interview study.

Social skills:

Critically review the work of peers and suggest improvements.

By following this course, you advance scholarly knowledge and skills within consulting, which goes beyond introductory courses. Next to that you study the course literature and develop a well-informed overview of the general field by reviewing the method and content of your fellow

student's work. You further provide recommendations that aim at helping to improve the work of your peers. These research skills constitute an essential basis for writing a Bachelor Thesis in management consulting, a essential basis for the master specialization in management consulting, and a preparation for consultant practice.

### **Inhoud vak**

Building on an introduction on management consulting as provided in the integrative courses (BK/IBA) and related courses, students will explore and deepen their knowledge of classical and contemporary scientific debate in management consulting by means of a combined literature and interview study. In this way, the course will advance the students' ability to develop a well-informed position in a scientific debate on:

- Consultants and their role in the diffusion of management knowledge;
- Consultants and their role in managing resistance to change;
- CSR consultants and their impact on the implementation of a management idea such as CSR in practice;
- Complementary and conflicting consultant roles in consultant-client interaction;
- Consultants and their role in supporting strategic decision making;
- Consultants and stress.

After some introductory lectures on these debates in the first two weeks of the course students chose one debate and work on papers related to this debate by further literature and interview study. They prepare for a one-day mini-conference in which papers will be presented and reviewed. Based on the on mini-conference students can improve their papers.

### **Onderwijsvorm**

Lectures  
Tutorials

### **Toetsvorm**

Intermediate literature exam – individual assessment  
Paper – individual assessment  
Class participation

### **Literatuur**

This course is article based.  
Readings will be announced in course manual

### **Aanbevolen voorkennis**

For BK:  
1.3 Academic Skills, 1.6 Integration project), 1.2 Organization Theory  
2.2 Strategy; 3.4 Foundations of Strategic Management.

For IBA:  
1.3 Academic Skills; 1.2 Organization Theory; 2.3 International  
Strategy; 2.6 integrative Research Project; 3.4 Foundations of Strategic  
Management.

## **Democratie 2.0**

<b>Vakcode</b>	S_DM20 ()
<b>Periode</b>	Periode 2

<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	drs. B. Slijper
<b>Examinator</b>	drs. B. Slijper
<b>Docent(en)</b>	drs. B. Slijper
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

1. De student is bekend met de klassieke theorieën over de praktijk en theorie van de democratie
2. De student is bekend met de recente ontwikkelingen en veranderingen in de politiek gedrag en participatie van burgers als gevolg van de opkomst van communicatietechnologie
3. De student is in staat te beoordelen in welke mate deze veranderingen een aanpassing van de 'klassieke' theorieën nodig maken

### Inhoud vak

In deze cursus van de Minor Netwerken in de Informatiemaatschappij zal de netwerksamenleving vanuit politiek-sociologisch perspectief worden benaderd. Meer specifiek staat de vraag centraal wat de gevolgen zijn van de informatie- en communicatierevolutie voor het gedrag van politici, het gedrag van burgers, en de relaties tussen deze twee. Het vak is tegelijkertijd een verbreding maar vooral een verdieping van kennis opgedaan in het inleidende vak "De netwerksamenleving".

Al vanaf het prille begin van de informatie- en communicatierevolutie waren er veel verwachtingen van de mogelijkheden van met name internet voor de politieke participatie van 'gewone' burgers. Zo zouden voorheen uitgesloten groepen nu veel beter hun weg naar het publieke debat kunnen vinden, moeilijk bereikbare groepen weer bij de publieke zaak betrokken kunnen worden, de kloof tussen burgers en politici zou kunnen worden gedicht, de toegankelijkheid en diversiteit van relevante informatie zou worden vergroot, en de verschillende interactieve mogelijkheden zouden het mogelijk maken veel meer burgers dan voorheen te betrekken bij allerlei publieke discussies en wellicht zelfs vormen van beleidsvorming. Kortom, internet zou de kwaliteit van democratische samenleving ten goede veranderen.

Inmiddels is het enthousiasme enigszins getemperd. Zo deed de term digitale tweedeling haar intrede, is internet behalve een vrijplaats nu ook het terrein van verregaande vormen van censuur, worden fora als GeenStijl beschuldigd van vervuiling van de publieke meningsvorming, en worden beroemde klokkenluiders-sites als WikiLeaks van 'digitaal terrorisme' beschuldigd. Is internet nu een vloek of zegen voor de democratische samenleving? In deze cursus zullen we een stand-van-zaken van dit debat proberen te geven aan de hand van een viertal actuele cases. Daarbij staat telkens, naast de sociologische vragen naar de aard en omvang van de geschetste casus, ook de vraag centraal welke betekenis deze heeft voor de klassieke normen van de democratische samenleving.

### Onderwijsvorm

Hoorcollege en werkcollege/practicum; actieve participatie wordt verwacht

## Toetsvorm

Schriftelijk tentamen en twee tussentijdse opdrachten.

## Literatuur

Dahl, Robert A. (1998). On Democracy. New Haven: Yale University Press.  
Digitale reader met diverse artikelen (wordt t.z.t. op Blackboard bekendgemaakt).

## Aanbevolen voorkennis

Voorgaande modules in deze Minor

## Doelgroep

Studenten Minor "Netwerken in de informatiemaatschappij" (bachelor)

## Overige informatie

Dit vak is onderdeel van de Minor Netwerken in de Informatiesamenleving.  
Deelname aan dit vak is mogelijk zonder de gehele minor te volgen.

## Designing Interventions in Business and Society

<b>Vakcode</b>	E_BK3_DIBS ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. I.J.C. Leijen
<b>Examinator</b>	drs. I.J.C. Leijen
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege, Werkcollege
<b>Niveau</b>	300

## Doel vak

**Knowledge:** You will obtain knowledge on the design of interventions aimed at influencing behavior as well as on the ethical aspects when adopting influencing tactics.

**Bridging Theory and Practice:** You will make use of theoretical knowledge and concepts with regard understanding and influencing human behavior, and apply these to real-world challenges, while focusing on the various stakeholders that are involved (co-workers, other organizations, consumers & citizens).

**Social Skills:** You will work in small teams to plan and develop your intervention, which will help you develop many of the "soft skills" that are needed to collaborate with others and achieve challenging goals.

## Inhoud vak

This integrative project is the capstone course of the minor "Understanding and Influencing Decisions in Business and Society". After a brief introduction in which you get acquainted with some of the methods for designing interventions, you start working on an intervention that addresses one of the real-world challenges that will be selected for this course. In this project, you will touch upon (1) design, (2) implementation, and (3) testing/evaluation phases by the development of a business plan. Because this is an integrative course, your intervention will be required to approach in a multi-disciplinary fashion, combining for example the insights on leadership with those on

judgment and decision making, or combining nudges with negotiation skills.

You will work in small teams, and present your interventions that will be judged on both the academic and the practical quality of your work. In the other courses of the minor you have acquired a lot of knowledge on strategies how people can be influenced. But is that ethical? And can these strategies be abused? In this integrative course we allocate attention to and reflect on the ethical aspects of such tactics.

### Onderwijsvorm

Lectures and small-group tutorials

### Toetsvorm

Team project – group assessment  
(Interim) exam – individual assessment

### Literatuur

TBA

### Vereiste voorkennis

All courses of period 1 & 2 in the minor "Understanding and Influencing Decisions in Business and Society"

### Aanbevolen voorkennis

All courses of period 1 & 2 in the minor "Understanding and Influencing Decisions in Business and Society"

## Development and Globalization

<b>Vakcode</b>	S_DG ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. M. Matelski
<b>Examinator</b>	dr. M. Matelski
<b>Docent(en)</b>	prof. dr. D. Dalakoglou, dr. M. Matelski
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

The aim of this course is to get introduced to development sociology and more in particular to gain insight into issues of poverty, global inequality and development. Students will develop an anthropological perspective on developmental issues in the Global South.

### Inhoud vak

The development of a capitalist economy in the North and the ongoing, global restructuring of the economy have impacted on economic and social development of the global South. Policies of states, supranational development agencies, and local NGOs to raise the standard of living in the so-called less developed countries have not attained the success levels hoped for. In fact, growth-oriented policies may have negative side effects, such as increased inequality, both within and between states, and ecological degradation. In this course, we analyse the

interactions between (inter)national stakeholders and local populations, substantiating how particularly the so-called “poor” people experience inequality and poverty. We also highlight potential and experienced gaps between intentions and outcomes of development policies and look at what anthropology can contribute to ‘development’ debates and policy implementation.

### Onderwijsvorm

Lectures.

### Toetsvorm

Take home exam

### Literatuur

To be announced later.

### Doelgroep

Obligatory course for students in the minor Development Studies and 2nd year students of Political Science; elective course for students in 2nd year of BSc CAO; optional course for other 2nd and 3rd year Bachelor’s students and students of the Exchange Programme.

### Overige informatie

This course is open to students from various disciplines who have completed their first year of their Bachelor programme.

## Development from an Interdisciplinary Viewpoint

<b>Vakcode</b>	S_DIV ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	drs. G.M. van Iterson Scholten
<b>Examinator</b>	drs. G.M. van Iterson Scholten
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

Students learn about the themes relevant for the study of political, economic and social challenges faced by developing countries at the beginning of the 21st century. They also acquire knowledge of how various scientific disciplines see and recommend to remedy these situations and will gain interdisciplinary perspectives into these challenges.

### Inhoud vak

The course is organized around a series of guest lectures addressing different aspects of development. In the course, students learn about the relationships between a.o. globalization, gender equality, poverty reduction, environmental concerns, food security, state fragility, trade liberalization and developmental processes. Next to that, the course offers both an overview and various applications of the main theoretical approaches to the study of development, as well as their main criticisms.

**Onderwijsvorm**

Lectures by various academic and non-academic experts

**Toetsvorm**

Take home exam

**Literatuur**

Paul Hopper (2012), Understanding development. Cambridge: Polity Press

Various articles on BlackBoard, to be announced.

**Doelgroep**

Obligatory course for students in the minor Development Studies.

Optional course for 2nd and 3rd year Bachelor's students and students of the Exchange Programme.

**Overige informatie**

This course is both the final course of the minor Development Studies and a stand-alone introduction course to Development Studies. The course is open to 2nd and 3rd year Bachelor's students in various disciplines.

Students are invited to participate in discussions in class; participants with experience in development work or related activities are especially invited to do so.

**Development of Macroeconomic Thought**

<b>Vakcode</b>	E_ME_DMT ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. C.A. Davids
<b>Examinator</b>	prof. dr. C.A. Davids
<b>Docent(en)</b>	prof. dr. C.A. Davids, J. Chen MPhil
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

**Doel vak**

The objective of this course is to introduce core concepts and theories of modern macroeconomic analysis including their development within the economic and social context of the past centuries.

Specific learning outcomes upon completion of this curricular item are:

- Understanding of macroeconomic theories about growth, inequality and unemployment within their historical contexts
- A basic knowledge of core macroeconomic concepts
- Familiarity with recent empirical macroeconomic work on growth, inequality and unemployment.

**Inhoud vak**

The course starts with discussing the historical development of macroeconomic theories about growth, inequality and unemployment.

Next the course proceeds with the introduction of core macroeconomic concepts and theories including illustrations from recent empirical

macroeconomic work on growth, inequality and unemployment:

- Circular flows and national accounts- Aggregate incomes and inequality;
- Growth accounting: labor productivity, technological progress, human capital, Solow model;
- Institutions and economic development;
- Unemployment: measurement, types, costs of unemployment, wage rigidity.

### Onderwijsvorm

Lectures and tutorials

### Toetsvorm

Grade is average of problem sets (2/5) and written examination (3/5), with written exam grade of at least 5.0

### Literatuur

Acemoglu, Daron, David Laibson and John A. List, 2016, Economics, Harlow, Essex, Pearson Education Ltd. ISBN 13: 978-1-292-07920-2, incl. access code MYECONLAB.

### Vereiste voorkennis

Basic knowledge of math and statistics, as provided in the academic core of any academic program at the Vrije Universiteit Amsterdam or equivalent.

## Differentiaalmeetkunde

<b>Vakcode</b>	X_400631 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. O. Fabert
<b>Examinator</b>	dr. O. Fabert
<b>Docent(en)</b>	dr. O. Fabert
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

### Onderwijsvorm

Lectures and tutorials

### Toetsvorm

Homework (makes up for 30% of the final grade), written final exam

### Literatuur

Lee, Introduction to smooth manifolds, Springer  
 Warner, Foundations of differentiable manifolds and Lie groups, Springer  
 Hirsch, Differential topology, Springer

### Doelgroep

3W, 3W-B

## Digital Marketing and Metrics



<b>Vakcode</b>	E_EBE3_DMM ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. F. Sotgiu
<b>Examinator</b>	dr. F. Sotgiu
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

During this course, you will develop an in-depth understanding of online marketing from a theoretical, analytical and practical perspective (Academic Skills). Building on the knowledge of Marketing II, this advances your knowledge on how to strategically design online marketing activities, and also how to analyze and evaluate the effectiveness of these online marketing activities (Knowledge, Quantitative Skills). Moreover, you will apply this knowledge and skills in a real-life setting, enabling you to translate and apply theoretical knowledge into practice (Bridging Theory and Practice).

By the end of this course you will be able to:

- identify the right metrics and methods to evaluate online marketing activities;
- assess qualitatively and quantitatively online marketing strategies and tactics;
- identify which activities are more effective and why;
- use the information obtained to build an effective digital marketing strategy.

### Inhoud vak

In the past decade, the Internet has caused fundamental changes in the way we live, learn, and do business. For marketers, the intense use of digital media, and the widespread adoption of smartphones has truly revolutionized the way marketing 'is done'. More than ever before, word of mouth and consumer communities are considered important market forces that influence consumer decision-making all along the purchase process. Moreover, companies are increasingly adopting a business logic based on co-creating value propositions with customers. Marketing, as a function that is closest to the consumer, plays a key role in giving shape to this new era in business management. With today's consumers continuously connected online, it is imperative for marketing managers to monitor the customer journey online in order to fully understand the impact of their marketing activities and plan successful new online marketing strategies. However, in the era of big data, managers often do not know which metric to focus on and how to extract valuable information from the data at hand.

By the end of this course, you will be able to assess qualitatively and quantitatively online marketing strategies during three important moments of the customer journey online: (1) Product search; (2) Purchase; (3) Post-purchase. For each moment, you will identify which factors play a bigger role in influencing consumers' attitude and behaviour, based on the literature and your own analyses. You will also be able to use the information obtained to evaluate the ROI of digital marketing and social media campaigns and build a successful online marketing strategy.

**Onderwijsvorm**

Lectures.  
Tutorials.

**Toetsvorm**

(Interim) Assignment(s) - Group assessment.  
Exam - Individual assessment.

**Literatuur**

Articles, cases, lecture slides.  
The reading list will be announced on Blackboard.

**Vereiste voorkennis**

None.

**Aanbevolen voorkennis**

Marketing I and Marketing II.

**Overige informatie**

The lectures are interactive.

## E-Commerce Supply Chain Management

<b>Vakcode</b>	E_IBA3_ESCM ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. ir. S.L.J.M. de Leeuw
<b>Examinator</b>	prof. dr. ir. S.L.J.M. de Leeuw
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

The goals of the course are as follows:

**Academic Skills:**

- This course furnishes you with the ability to recognize and analyze fundamental structures and starting points of e-commerce supply chains and to formulate management conclusions for improvements in ecommerce supply chains.

**Quantitative methods.**

- You will study methods to analyze the preferences for and performance of ecommerce supply chains, including warehouse management, inventory management, and fulfilment.

**Bridging Theory and Practice:**

- Students will be exposed to four parts of the supply chain in this course: (1) warehousing, (2), multi-channel fulfilment, (3) transportation in the last mile, and (4) returns management.
- You will study stylized cases and analyze a real-life case study; we will include guest lectures and a company visit to an ecommerce warehouse.

### Social Skills:

- You will analyze and develop solutions for stylized case problems in teams and present that in teams..

### Inhoud vak

E-commerce retail has shown a consistent double-digit growth over the last years. It is generally recognized that the delivery of parcels to consumers is pivotal. The Netherlands, while being recognized as a world leader in logistics according to the Logistics Performance Index, is best in class on several aspects of ecommerce supply chains including short delivery lead-times and late order cut-off times. The EU has formulated a bold target to achieve 20% of all EU online retail via cross border retail by 2020. This provides enormous challenges and particularly in the supply chain.

This course is build around 4 themes:

#### 1. Warehousing

Questions addressed here encompass how to benchmark ecommerce warehouses and how to design warehouse planning rules for e.g. picking

#### 2. Multi-channel fulfilment

Here we discuss issues related to fulfilment of demand (including determining consumer preferences, inventory management and demand forecasting)

#### 3. Last mile transportation

Issues addressed here relate to getting the product to the consumer and that includes challenges in city logistics, consolidation opportunities and sustainable transport.

#### 4. Returns management

Topics we discuss address challenges in managing the returns flows from consumers back to the webshop.

### Onderwijsvorm

Lectures

Tutorials

### Toetsvorm

Written exam - Individual assessment

Cases - Group assessment

### Literatuur

Readings will be announced via Blackboard

### Aanbevolen voorkennis

Bachelor BK SCM 1 or similar

## Econometrics I

<b>Vakcode</b>	E_EOR2_TR1 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L.F. Hoogerheide
<b>Examinator</b>	dr. L.F. Hoogerheide
<b>Docent(en)</b>	prof. dr. S.J. Koopman, dr. C.S. Bos, dr. F. Blasques Albergaria Amaral, prof. dr. J.R. Magnus

<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

Getting acquainted with the concepts, theory, methods and techniques from econometrics. Most importantly, the introduction of regression, testing and maximum likelihood will be covered.

### Inhoud vak

Topics include

- Simple linear regression
- Hypothesis testing
- Finite-sample and asymptotic properties
- Multiple regression and its matrix algebra
- Inference : estimation and testing
- Maximum likelihood

### Onderwijsvorm

2 x 2 hours of classes per week. During the classes time will be made for discussing exercises.

### Toetsvorm

Intermediate exam – Individual assessment

Final exam – Individual assessment

Individual assignment - Individual assessment

### Literatuur

J.H. Stock and M.W. Watson (2012), Introduction to Econometrics. 3rd edition.

### Aanbevolen voorkennis

Linear Algebra, Analysis II, Statistics

## Econometrics II

<b>Vakcode</b>	E_EOR2_TR2 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L.F. Hoogerheide
<b>Examinator</b>	dr. L.F. Hoogerheide
<b>Docent(en)</b>	dr. L.F. Hoogerheide
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

Acquainting the student with misspecifications in the linear regression model and extensions of the linear regression model.

### Inhoud vak

Topics include:

- Heteroskedasticity
- Instrumental variables and generalized method of moments

- Specification, misspecification, dummies, error-in-variables
- Regression models with time series data and serial correlation in the errors
- Strict and contemporaneous exogeneity
- Binary data: logit, probit models
- Multinomial data: logit models.
- Censored/truncated data: tobit models
- Poisson data
- Nonparametrics and semi-parametrics

### Onderwijsvorm

Classes. During classes time will be made for discussing exercises.

### Toetsvorm

Intermediate exam – Individual assessment

Final exam – Individual assessment

Individual assignment - Individual assessment

### Literatuur

Wooldridge (2013), Introductory Econometrics, A Modern Approach, 5th international edition.

### Aanbevolen voorkennis

Econometrics I, Linear Algebra, Analysis II.

## Econometrics III

<b>Vakcode</b>	E_EOR3_TR3 ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J. Schaumburg
<b>Examinator</b>	dr. J. Schaumburg
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Obtaining basic understanding of multivariate dynamic linear modeling and time series analysis and panel data. Understanding the introductory theory and practice of econometric analysis of stationary and non-stationary multivariate stochastic processes and panel data.

### Inhoud vak

Econometrics II provides an introduction to multivariate dynamic models and time-series analysis. The course covers both theoretical and practical aspects of time-series econometrics including analysis of multivariate stationary and non-stationary processes, vector autoregressive (VAR) models, vector error correction models (VECMs), and cointegration tests. The course also introduces panel data models, methods and techniques.

### Onderwijsvorm

4 hours per week of lectures, 2 hours per week solving/discussing both theoretical and practical exercises

## Toetsvorm

Exam (80%) and practical assignment (20%)

## Literatuur

J.D. Hamilton, Time Series Analysis (1994), Princeton University Press

H. Lütkepohl, New Introduction to Multiple Time Series Analysis (2006), Springer

K. Juselius, The Cointegrated VAR Model: Methodology and Applications

B.H. Baltagi, Econometric Analysis of Panel Data (5th Edition, 2013), Wiley

## Vereiste voorkennis

Basics of statistics, probability, econometrics, algebra, and calculus

## Overige informatie

The course is suitable to be taken in an exchange program.

## Economic Assessment of Health Care

<b>Vakcode</b>	E_EBE3_EAHC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. M. Lindeboom
<b>Examinator</b>	prof. dr. M. Lindeboom
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Computerpracticum
<b>Niveau</b>	300

## Doel vak

In this course, the following topics will be presented and discussed (Academic skills; Research skills; Quantitative skills; Knowledge):

- objectives of economic evaluations;
- different types of economic evaluations;
- measurement, valuation and analysis of costs;
- measurement and valuation of quality of life (utilities and QALYS);
- economic assessment of informal care and productivity loss caused by illness;
- bootstrapping techniques;
- incremental cost-effectiveness ratios;
- cost-effectiveness analyses;
- net-benefit approach;
- Sensitivity analyses;
- decision analysis and the use of decision trees;
- Markov modelling;
- probabilistic sensitivity analyses;
- reporting economic evaluations and interpreting their results;
- the use of cost-effectiveness information for policy making.

## Inhoud vak

At the end of this course, you know the essentials of economic evaluations of health care processes and health care technology. You will be able to make an informed choice between a trial-based and a model-based approach. The limitations of economic evaluations will be

clear and they can be taken into account in designing a specific evaluation project. You will be able to critically assess the results of cost-effectiveness studies that followed a trial or model approach, and you will be able to interpret adequately evaluation reports and evaluation articles.

### Onderwijsvorm

Lectures.

Tutorials (including computer practica).

### Toetsvorm

Written exam - individual assessment

Assignments - group assessment

### Literatuur

Gray A.M., P.M. Clarke, J.L. Wolstenholme and S. Wordsworth, Applied Methods of Cost-effectiveness Analysis in Health Care. Oxford: Oxford University Press.

Additional literature will be announced on Blackboard.

### Vereiste voorkennis

None

### Aanbevolen voorkennis

None

## Economics of the Dutch Health Care System

<b>Vakcode</b>	E_EBE3_EDHCS ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. F.R.M. Portrait
<b>Examinator</b>	dr. F.R.M. Portrait
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	200

### Doel vak

At the end of the course you can:

- explain the trend in health care expenditures in The Netherlands (Bridging theory and practice);
- apply health economic theory to analyze and evaluate the recent developments in the Dutch health care market for cure, the Dutch long-term care market ("care") and the disability insurance market (Knowledge; Bridging theory and practice) ;
- understand the role of the government in the Dutch care markets (Bridging theory and practice);
- identify and understand the most important issues within the Dutch care system and evaluate already implemented or future solutions (Research skills; Broadening your horizon);
- understand and apply economic concepts to measure and interpret the (relative) efficiency of healthcare providers (Knowledge, Bridging theory and practice).

**Inhoud vak**

Health care economics is concerned with the provision of, and demand for, health care. We will discuss the relevant economic theories and concepts that are necessary to understand the working of the (Dutch) health care markets: the market for cure cure market, the market for care and the market for disability insurance. During the course students will study how policy makers try to achieve the policy objectives of high quality, affordable and accessible care in the Netherlands. Dutch health care institutions and current regulations will be presented.

**Onderwijsvorm**

Lectures.  
Tutorials.

**Toetsvorm**

One written exam – individual assessment.  
Two take-home assignments – group assessment.

**Literatuur**

Eric Schut en Marco Varkevisser (2012): Economie van de gezondheidszorg, Reed Business (vijfde druk).

**Vereiste voorkennis**

None.

**Aanbevolen voorkennis**

None.

**Emerging Technologies for E-Business and Online Commerce**

<b>Vakcode</b>	E_IBA3_ETEOC ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. F.E.J.M. Derksen
<b>Examinator</b>	drs. F.E.J.M. Derksen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

After completion of this course, students will:

- Have an integrative knowledge of the various aspects of E-business and online commerce discussed in the preceding courses.
- Have knowledge of the most recent technological developments relevant to E-business and online commerce processes.
- Be able to critically assess the pros and cons of applying recent technologies in E-business and online commerce processes.
- Be able to provide a concrete advice concerning the feasibility of the use of such technologies.

**Inhoud vak**

This course focuses on the question how emerging technologies can play a role in supporting organizations' E-business and online commerce



processes. Based on the knowledge gained in the first four courses of this minor, students will conduct a feasibility study concerning a recently emerged technology. This technology will be selected by the course coordinators, and will be technology that newly entered the market before the start of the course. The analysis will focus on questions like:

- What is the potential value of this technology in supporting organizations' E-business and online commerce activities?
- What are important conditions for this value to be realized?
- What are the demands and consequences of applying this technology in terms of consumer interaction, logistics, information systems and other relevant aspects?
- To what extent is applying this technology feasible in terms of costs, benefits, fit with the current enterprise architecture, business processes, consumer preferences, etcetera?

The outcome of this analysis is a business report in which a concrete advice is given in terms of the feasibility of this technology, and sheds light on the different aspects of logistics and fulfilment as well as marketing, technology and data, and insights for the e-business solution. Although academic fundamentals should be applied, this business case has a highly relevant practical component as well.

### **Onderwijsvorm**

Lectures

Tutorials

### **Toetsvorm**

Written Assignment - Group Assessment

Presentation - Group Assessment

Participation - Individual Assessment

### **Literatuur**

Various papers that will be made available via Blackboard

### **Vereiste voorkennis**

This course is part of the minor E-business and Online Commerce.

Students should at least be familiar with the content of 'Introduction to E-business and Online Commerce' and 'Consumer Science for Online Commerce'

### **Aanbevolen voorkennis**

Courses in period 1 and 2 of the Minor E-business and Online Commerce

### **Doelgroep**

This minor can be followed by all FEWEB bachelor students. In addition, advanced bachelor students (third year) from other faculties as well as other universities are welcome to join. Particularly those with an interest in Business and Organization Studies, Economics, Social Sciences, Social Psychology, Healthcare, Media and Communication Studies, Engineering, Technology Management, Operations Management and Education.

It is especially interesting for:

- Future managers who want to understand how Emerging Technologies can be implemented in existing business
- Entrepreneurs / intrapreneurs that want exploit the opportunities Emerging Technologies offer for E-business and online commerce
- Future consultants in E-business and online commerce, strategic business consultants, or government policy consultants

## Overige informatie

This course is part of the minor E-business and Online Commerce.

## Empirical Econometric Modelling

<b>Vakcode</b>	E_EOR3_EEM ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. F. Blasques Albergaria Amaral
<b>Examinator</b>	dr. F. Blasques Albergaria Amaral
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Computerpracticum
<b>Niveau</b>	300

### Doel vak

This course introduces students to advanced models and state-of-the-art econometric methods used in macroeconomics and finance.

By the end of this course, participants will:

- (1) know how to design, estimate and analyze time-varying parameter models used in macroeconomics and finance;
- (2) understand the interplay between econometric techniques and modeling assumptions;
- (3) have used computational methods to solve econometric exercises;
- (4) know how to estimate parameters of structural models using simulation-based estimators;
- (5) have gained experience in working with real data.

### Inhoud vak

This course covers both theoretical and practical aspects of modern complex dynamic econometric models that are used by industry leaders, central banks, governments, think tanks, and other research institutes.

The students are introduced to advanced models in macroeconomics and finance that feature nonlinearities, time-varying parameters and latent variables. In particular, the students learn how to design, implement, estimate and analyze both observation-driven and parameter-driven models. The latter include real business cycle (RBC) and dynamic stochastic general equilibrium (DSGE) models.

This course further shows how to use simulation based methods and indirect inference for estimating the parameters of complex structural models in macroeconomics and finance that feature latent variables and unobserved agents' expectations.

Finally, from a practical perspective, the students also learn how to use these advanced models in finance to calculate leverage effects, value-at-risk, and analyze trading strategies. The micro-founded structural RBC and DSGE models are used to conduct fiscal and monetary policy analysis.

### Onderwijsvorm

Lectures and practical classes. During practical classes time will be made for discussing exercises.

### Toetsvorm

Final exam and group assignment – Individual assessment

### Literatuur

Lecture notes and other material provided by teacher.

Creal, Drew D., Siem Jan Koopman and Andre Lucas (2013), "Generalized Autoregressive Score Models with Applications". *Journal of Applied Econometrics*, 28(5), 777-795.

C. Gourieroux; A. Monfort; E. Renault (1993), "Indirect Inference". *Journal of Applied Econometrics*, Vol. 8, Supplement: Special Issue on Econometric Inference Using Simulation Techniques, pp. S85-S118.

Ruge-Murcia, Francisco J. (2007), "Methods to estimate dynamic stochastic general equilibrium models". *Journal of Economic Dynamics and Control*, Elsevier, vol. 31(8), pages 2599-2636, August.

### Vereiste voorkennis

None

### Aanbevolen voorkennis

This course builds on the foundations laid either in the Time-Series course in the minor of Applied Econometrics, or the third-year Bachelor course Econometrics III.

### Doelgroep

This course is targeted at econometric students.

### Overige informatie

Participation in this course is a worthwhile preparation for the master courses in the MSc Econometrics program. The econometric techniques discussed will also be beneficial to everyone planning to write a Bachelor's thesis in Econometrics.

## Empirical Economics

<b>Vakcode</b>	E_EOR3_EEC ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. B. van der Klaauw
<b>Examinator</b>	prof. dr. B. van der Klaauw
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep

### Doel vak

The main goal of this course is to make students familiar with using microeconomic techniques to empirically analyze economic models. Students should be capable to test economic theories empirically and to estimate policy relevant parameters. Next they learn how to interpret estimation results and to translate these into policy conclusions.

Students learn to distinguish between causality and correlation.

### **Inhoud vak**

This course first provides an overview on microeconomic techniques to estimate causal effects. In particular, the potential outcomes framework is discussed and within this framework policy relevant treatment effects are defined. Next, more structural economic models are presented and empirical analyses of these models are discussed. More specifically, during the course consumer choice models, school assignment models, labor market models, search models and models in industrial organization are evaluated. During the course, there will be a theoretical discussion, presentation of empirical studies and students have to work with data.

### **Onderwijsvorm**

Lectures and workgroups

### **Toetsvorm**

Final (written exam and homework exercises)

### **Literatuur**

Stock, J.H. and M.M. Watson, "Introduction to econometrics", Pearson.

### **Vereiste voorkennis**

Introduction to econometrics (linear regression and maximum likelihood) and basic statistics (estimation and hypothesis testing)

## **Empirical Finance**

<b>Vakcode</b>	E_EOR3_EFIN ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. N.J. Seeger
<b>Examinator</b>	dr. N.J. Seeger
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

### **Doel vak**

The objective of the course is to show how econometrics can be applied to empirical questions in finance. In particular the course will cover topics such financial data and its properties, testing pricing efficiency and factor models, modelling volatility, risk management, continuous time finance. A mixture of academic papers and practical applications is used to study how econometric methodology is employed to facilitate financial decision making and extract information from financial market data.

### **Inhoud vak**

Econometric methods covered are among others regression models, generalised conditional heteroskedasticity models (GARCH), historical simulation, Monte Carlo simulation.

### **Onderwijsvorm**

Classes. During classes time will be made for discussing exercises.

**Toetsvorm**

Final exam – Individual assessment

**Literatuur**

Brooks (2014): Introductory Econometrics for Finance, 3rd

Tsay (2010): Analysis of Financial Time Series, 3rd

**Vereiste voorkennis**

None

**Aanbevolen voorkennis**

The courses of period 3.1 in the Minor Applied Econometrics.

**Overige informatie**

This course in the minor Applied Econometrics is targeted at both econometrics and non-econometrics students.

## Empirical Marketing

<b>Vakcode</b>	E_EOR3_EMKT ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. F. Sotgiu
<b>Examinator</b>	dr. F. Sotgiu
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

**Doel vak**

The objective is to show how econometrics can be applied to empirical questions in marketing and consumer behaviour. In particular, how to build models to support marketing decisions. Given the current big data revolution, models from which useful information about market behavior and their sensitivity to marketing activities such as advertising, pricing, promotions and distribution are routinely used by managers (from leading organisations worldwide) for analyzing marketing programs that can improve brand performance. This course will introduce to the models and the estimation methods, together with their use in empirical marketing studies.

**Inhoud vak**

The econometric methods that are employed include simple regression, multivariate statistical analysis, limited dependent variable models, panel data models, pooled regressions, forecasting methods, trend extraction.

**Onderwijsvorm**

Lectures and classes. During classes time will be made for discussing exercises and for supporting empirical work.

**Toetsvorm**

Final exam – Individual assessments

### Literatuur

Reader, a selection of chapters and articles on various topics. The econometrics is based on the book "Introduction to Econometrics" by J.H. Stock and M.W. Watson, which is used in earlier courses.

### Vereiste voorkennis

None, but an introductory course in econometrics is highly recommended.

### Aanbevolen voorkennis

An introductory course in econometrics similar to the course "Introduction to Econometrics" of our Minor program "Applied Econometrics: A Big Data Experience For All".

### Doelgroep

This course is part of the Minor program "Applied Econometrics: A Big Data Experience For All".

### Intekenprocedure

As usual.

### Overige informatie

This is a 6 EC course presented in period 2 (November-December) in the academic year. This course is part of the Minor "Applied Econometrics: A Big Data Experience for All". It is targeted at both econometrics and non-econometrics students.

## Enterprising Behavior

<b>Vakcode</b>	E_BK3_ENTBEH (61321070)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. N.A. Thompson
<b>Examinator</b>	dr. N.A. Thompson
<b>Docent(en)</b>	dr. N.A. Thompson
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

### Doel vak

- Explain and summarize knowledge about entrepreneurship skills to peers
- Apply and develop insights into (own) entrepreneurship skills
- Work independently on assignments, reflect on his/her own work and on the work of his/her peers

### Inhoud vak

This course deals with the study and practice of entrepreneurial behavior. Students will learn about the six so-called entrepreneurial skills: imagining and recognizing opportunities, taking action, perseverance, networking, teamwork, and persuasion. The level of analysis in this course is the individual (we are not discussing enterprising firms but enterprising people). In this course, students are asked to be enterprising (in Tasks 1 and 2) and study the

entrepreneurial behavior of someone else ( in Task 3). This course is a prelude to the New Venture Creation course in practice.

### Onderwijsvorm

hoorcolleges,  
praktijkopdrachten

### Toetsvorm

The course is assessed through two missions in which the student must demonstrate and reflect upon entrepreneurial behavior. There is also a biography assignment in which the student reflects on the entrepreneurial behavior of someone else (for example, a famous entrepreneur).

### Literatuur

Rae, D. (2014). Opportunity-Centred Entrepreneurship (Second edition). Palgrave Macmillan.

### Overige informatie

Het vak wordt in het Engels gegeven.

## Environment and Development

<b>Vakcode</b>	S_ED ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	drs. W.A.M. Tuijp
<b>Examinator</b>	drs. W.A.M. Tuijp
<b>Docent(en)</b>	drs. S.L. Di Prima MSc, drs. W.A.M. Tuijp
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

This course aims to help the student to examine and critically reflect on the relationships between economic and social development, and the environment.

### Inhoud vak

What do we mean by the concepts of environment and development and how are the two related? What are the causes and consequences of global environmental change? How is the global community dealing with ecological problems? How can smallholder farmers in the developing world adapt to climate change? How can the world adequately feed more than 9 Billion people by 2050? Is sustainable development, with its notions of environmental 'friendliness', really achievable?

These and many other questions will be discussed during this interdisciplinary course. After the introductory overview the course will discuss two overall aspects of the international E&D framework: (1) Global Issues - which considers the links between development on the one hand and environment, trade and poverty on the other; (2) Local Issues - which focuses on the increasingly serious problem of land degradation, deforestation and growing water shortages, and asks key questions of how

these are related to aspects of human development in poor countries. Illustrated case studies from all over the world provide the basis for teaching. Through this course students learn to recognize and analyze the current and potential impact of the major international environmental concerns; to appreciate the complexities of environmental issues related to development at a global level; to take into account different perspectives on environmental problems and possible solutions; and learn lessons from international case studies.

### Onderwijsvorm

Lectures, group discussions and tutorials.

### Toetsvorm

Group presentations (40%) and exam (60%).

### Literatuur

Clapp, J., & Dauvergne, P. (2011, 2nd edition) Paths to a Green World: the political economy of the global environment. Cambridge: MIT Press.

Various other texts will be announced at the start of the course.

### Doelgroep

Obligatory course for students in the minor Development Studies.

This course is open to students from various disciplines who have completed their first year of their Bachelor programme.

Optional course for 2nd and 3rd year Bachelor's students and students of the Exchange Programme.

### Overige informatie

Some comments from former students:

"Many case studies, examples and pictures from own experiences presented by enthusiastic teachers"

"Eye-opening to very important topics and a lot of additional info"

"I liked the broadness of the course. I really have an overview now of the main environmental issues"

"Thanks a lot for the course, I have learned a lot and will recommend it to others!"

## Equational Programming

<b>Vakcode</b>	X_401011 (401011)
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. F. van Raamsdonk
<b>Examinator</b>	dr. F. van Raamsdonk
<b>Docent(en)</b>	dr. F. van Raamsdonk
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Practicum
<b>Niveau</b>	300



**Doel vak**

To obtain basic knowledge of functional programming (using Haskell) and its foundations via lambda-calculus and equational reasoning.

**Inhoud vak**

In the practical work we use the functional programming language Haskell.

We practice with the basics such as lists, recursion, data-types, a bit of monads.

The theoretical part is concerned with the foundations of functional programming in the form of lambda-calculus and equational reasoning.

We study in untyped lambda-calculus beta-reduction, reduction strategies,

encoding of data-types, fixed point combinators and recursive functions.

In addition we study the lambda-calculus with simple types, its typing system and a type inference algorithm.

In equational reasoning we work towards the results that all initial models are equal up to isomorphism, and that the term model is an initial model.

**Onderwijsvorm**

This course is taught in period 3.

There is 2 times a week a 2 hours lecture, and 2 times a week a 2 hours exercise class.

In addition, there is 4 times a week programming lab (programming in Haskell).

**Toetsvorm**

Written examination,

programming assignments in Haskell,

and (possibly obligatory) hand-in theory exercises.

**Literatuur**

Course notes.

**Doelgroep**

3CS, 3LI, 3IMM, 3W

**Overige informatie**

This course is part of the minor Deep Programming.

**Ethics**

<b>Vakcode</b>	E_EOR2_ETH ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. M.V.B.P.M. van Hees
<b>Examinator</b>	prof. dr. M.V.B.P.M. van Hees
<b>Docent(en)</b>	prof. dr. M.V.B.P.M. van Hees
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

**Doel vak**

The student acquires knowledge of (a) the main positions in normative ethics, (b) approaches in and problems from business ethics, and (c) political-philosophical aspects of economic decision-making.

The student acquires the ability (a) to apply ethical concepts and theories, (b) to give a philosophical defence of a normative claim

**Inhoud vak**

This course offers an introduction to and overview of the central and approaches in contemporary ethics, specifically in the context of economic issues.

You will learn the essentials of the main ethical theories: consequentialism, contract theory, deontology, virtue ethics, ethics of care and will learn to acknowledge and assess the ethical dimension of economic questions. The course also analyzes the different interpretations of important ethical concepts, in particular freedom, justice, well-being, happiness, autonomy and equality. Finally, different normative views on the relation between economics and politics are discussed.

**Onderwijsvorm**

Hoor- en werkcollege (geïntegreerd).

**Toetsvorm**

Assignments, intermediate exam.

**Literatuur**

- Rachels, J. and S. Rachels, The Elements of Moral Philosophy. 8th edition, New York: McGraw Hill
- Manuel G. Velasquez, Business Ethics: Concepts and Cases, 7th Edition, Pearson, 2011

**Vereiste voorkennis**

None

**Aanbevolen voorkennis**

None

## Ethics of Algorithms

<b>Vakcode</b>	E_MM_ETHA ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. ir. M. van Otterlo
<b>Examinator</b>	dr. ir. M. van Otterlo
<b>Docent(en)</b>	dr. ir. M. van Otterlo
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

## **Doel vak**

After completing this course, students will

Understand the role of smart algorithms for big data, in digital interactions, and in physical manifestations such as robots and the internet-of-things.

Know broad classes of algorithms and how they are used for prediction, social sorting, curating, recommending, gatekeeping, experimentation, and profiling

Be familiar with some of the main contemporary thinkers and issues in the ethics of algorithms

Know and understand the ethical implications of (classes of) algorithms on privacy, surveillance, discrimination, access to information, security, free will, human rights, social norms, etc.

Be able to identify stakeholders and ethical implications in healthcare, design, crime, education, science, job markets, business, journalism, warfare, etc.

## **Inhoud vak**

Digital innovation involves both the accumulation of large amounts of data (so-called Big Data) through various new sensors (such as smartphones and social networks) as well as artificially intelligent algorithms (software, but also robots) that can analyze and interpret that data (i.e. analytics) and act upon it. The main objective of this course is to develop “algorithmic literacy” which is an understanding of how (intelligent and adaptive) algorithms influence the way we communicate, work, obtain information, date, travel, and so on, but also how we can tackle grand challenges such as crime, healthcare and education in new, innovative ways. Algorithms are not neutral or objective, but come with many biases, choices, and political influences built-in, which heavily determine how people are “seen” by these algorithms, and how they are treated.

The course covers specifically the various implications algorithms have on fundamental values in society dealing with privacy, surveillance, free will, and so on. For each implication typically several competing stakeholders are involved with opposing viewpoints, value systems or business models. This requires a delicate balancing of interests. Ethics deals with finding this balance, with identifying issues and stakeholders, with employing social and legal solution frameworks, and possibly with judging whether some developments are good or bad.

The course features lectures on algorithms, ethical issues and domains. In addition we will read and discuss relevant literature, for which active participation is required. Each student needs to write an individual essay about a (self-chosen) ethical problem in a particular domain. Furthermore, each student participates in a multidisciplinary design team consisting of students to find a practical solution for an ethical issue caused by the use of intelligent algorithms.

## **Onderwijsvorm**

Lectures and (interactive) literature discussions.

## **Toetsvorm**

Individual essay, team design project, active participation in group sessions, and a digital exam.

## Literatuur

Various articles that will be made available through BlackBoard.

## Ethiek I

<b>Vakcode</b>	W_BA_ETH1 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. P. Robichaud
<b>Examinator</b>	dr. P. Robichaud
<b>Docent(en)</b>	dr. P. Robichaud
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	100

### Doel vak

De student verwerft:

- kennis van en inzicht in kernthema's uit de meta-ethiek
- kennis van en inzicht in de centrale posities in de normatieve ethiek

De student verwerft:

- vaardigheid in toepassen van ethische concepten en theorieën
- vaardigheid een normatieve stellingname filosofisch te onderbouwen

### Inhoud vak

Dit college geeft een inleiding in en overzicht van de belangrijkste vragen en benaderingen in de hedendaagse ethiek. Allereerst bespreken we wat ethische vragen eigenlijk zijn, waar morele begrippen naar verwijzen, en of we wel op een zinvolle manier over morele vraagstukken kunnen nadenken. Vervolgens gaan we in op de belangrijkste ethische theorieën: consequentialisme, natuurwetsdenken, contracttheorieën, deontologie, deugdenethiek, zorgethiek. De verschillende standpunten en theorieën worden besproken aan de hand van vele concrete en actuele voorbeelden.

### Onderwijsvorm

Hoor- en werkcolleges

### Toetsvorm

Schriftelijk tentamen

### Literatuur

- Russ Shafer-Landau, The Fundamentals of Ethics (2nd edition), Oxford: Oxford University Press, 2011
- Primaire teksten (via Blackboard) Russ Shafer-Landau

### Vereiste voorkennis

N.v.t.

### Doelgroep

Eerstejaarsstudenten filosofie, studenten premaster, studenten minor filosofie.

### Overige informatie

Deze module is een verplicht vak in het eerste jaar. De module geldt als voorkenniseis voor de 2e jaars module Ethiek II.

## Filming Entrepreneurship

<b>Vakcode</b>	E_BK3_FE ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J.K. Verduijn
<b>Examinator</b>	dr. J.K. Verduijn
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

**Academic Skills:** The student is able to question predominant ideas about entrepreneurship, and form their own. They are able to communicate these ideas visually, i.e. through moving images.

**Knowledge:** Students have a deeper and enhanced understanding of entrepreneurial 'real' life, and the various presumptions attached to the phenomenon.

**Bridging Research and Practice:** The student will have experienced various facets of entrepreneurial 'real' life.

**Social Skills:** The student is able to work in a small team.

**Broadening your Horizon:** The student is able to come up with and explore a (divergent) set of ideas (rather than focus on just one idea/solution), and play with perspectives.

**Self-Awareness:** The student is able to be curious, and to (critically) reflect on his/her own ideas about entrepreneurship, in relation to extant entrepreneurship knowledge.

### Inhoud vak

This course aims at facilitating students in experiencing, exploring, discovering and 'reporting' about entrepreneurship as a real-life and dynamic phenomenon and as an on-going process. Likewise, your ability to look, think, and report in a 'visual' way will be stimulated. In this course, we break with linear conceptualizations of entrepreneuring as a 'neat', straight road to success, a correct execution of a sound plan, based on a good idea, a well-spotted opportunity, or other such dominant (abstract) ideas. Instead, we are going to play with other, perhaps not so common ideas about entrepreneurship. During this course, you (in pairs) create a (short) film about entrepreneurship so as to 'activate' your own curiosity, and to – visually – communicate your ideas and perspectives.

### Onderwijsvorm

Interactive lectures, wrap-up session, and small work group meetings

### Toetsvorm

Assignment 1: short film (to be made in pairs) (group assessment)

Assignment 2: individual paper (assessment of films made) (individual assessment)

Mandatory attendance work group meetings

## Literatuur

- Chia, R. (1996) Teaching paradigm shifting in management education: University business schools and the entrepreneurial imagination. *Journal of Management Studies*, 33(4), p. 409-428.
- Jones, C. and A. Spicer (2009). *Unmasking the entrepreneur*. Cheltenham: Edward Elgar. Chapter 1, 2, 3, 5, 6.
- Lecture slides.

## Finance I

<b>Vakcode</b>	E_EBE1_FIN1 ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.B.J. Schauten
<b>Examinator</b>	dr. M.B.J. Schauten
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	100

### Doel vak

In dit vak staan drie vraagstukken centraal: het investerings-, het prijsvormings- en het beleggingsvraagstuk. Na afronding van het vak ben je in staat deze vraagstukken te analyseren en te abstraheren van niet-essentiële informatie (Academische vaardigheden) en ben je in staat de juiste methode en/of techniek toe te passen bij het oplossen van een specifiek financieel-economisch probleem (Kwantitatieve vaardigheden). Verder heb je een gedegen basiskennis van het investeringsvraagstuk van ondernemingen en van het prijsvormingsvraagstuk en beleggingsvraagstuk voor beleggers (Vakkennis). Tijdens de cursus maak je kennis met toepassingsmogelijkheden van modellen en/of theorieën in de praktijk en leer je actuele investerings- en beleggingsthema's te koppelen aan de theorie waardoor je je in de actualiteit verdiept (Algemene ontwikkeling).

Na afronding van dit vak:

- kun je vanuit het perspectief van de investeerder en belegger het investeringsvraag-, prijsvormings- en beleggingsvraagstuk analyseren;
- kun je financieel economische concepten uitleggen en toepassen;
- kun je investeringsprojecten beoordelen;
- kun je de waarde van vermogenstitels berekenen;
- kun je individuele beleggingsobjecten tot een beleggingsportefeuille combineren en een voor de belegger optimale portefeuille aanwijzen;
- kun je de vermogenskostenvoet van een onderneming bepalen;
- kun je actuele investerings- en beleggingsthema's koppelen aan de theorie waardoor je je in de actualiteit kunt verdiepen.

### Inhoud vak

Na Marketing I en Accounting I is Finance I het derde bedrijfseconomische vak dat in het eerste jaar van het curriculum van de BSc Economie en Bedrijfseconomie voorkomt. In dit vak leggen we het fundament voor de bestudering van het investerings-, het prijsvormings- en het beleggingsvraagstuk. Daarnaast worden handvatten aangereikt die gebruikt kunnen worden bij het oplossen van financieel economische

problemen. Tijdens de cursus worden als eerste de uitgangspunten van financieel management besproken. De begrippen waardering en waardecreatie spelen daarbij een cruciale rol. Het gebruik van de (netto) contante waarde methode wordt uitgebreid behandeld. Deze methode wordt gebruikt bij de waardering van vreemd en eigen vermogen (obligaties en aandelen), en bij het bepalen van waardecreatie door investeringsprojecten. Daarna wordt de verhouding tussen rendement en risico onder de loep genomen. Dit gebeurt o.a. door te kijken hoe het nemen van risico in financiële markten wordt beloond. Concepten als diversificatie, systematisch versus idiosyncratisch risico, het Capital Asset Pricing Model (CAPM), en optimalisatie van beleggingsportefeuilles komen hier aan de orde. Je leert op basis van het CAPM afleiden wat de door de markt bepaalde vermogenskostenvoet is voor de onderneming.

### Onderwijsvorm

Hoorcolleges.  
Instructiecolleges.

### Toetsvorm

Tussentoets – individuele beoordeling.  
Tentamen – individuele beoordeling.

### Literatuur

- J. Berk en P. DeMarzo (2017), Corporate Finance, Pearson, 4de Global Edition.  
- Finance I, Tekst- en Opgavenboek.

### Vereiste voorkennis

Geen.

### Aanbevolen voorkennis

Quantitative Research Methods I (of equivalent).

## Financial Accounting

<b>Vakcode</b>	E_EBE2_FAC ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. C. Camfferman RA
<b>Examinator</b>	prof. dr. C. Camfferman RA
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Dit vak is het derde vak in de leerlijn Accounting. In dit vak wordt de externe financiële verslaggeving, in het bijzonder de jaarrekening van ondernemingen, behandeld. Je leert wat de belangrijkste vraagstukken zijn vanuit het perspectief van de verslaggevende onderneming, en hoe deze verslaggeving in Nederland en internationaal gereguleerd is (Vakkennis). Je leert om deze kennis toe te passen op concrete vragen ontleend aan de verslaggevingspraktijk (Link met de praktijk). Hierbij oefen je vaardigheden zoals abstractie en argumentatie (Academische vaardigheden).

Na afloop van dit vak kun je:

- beschrijven welke vormen van regelgeving en toezicht van toepassing zijn op de verslaggeving van de meest voorkomende typen ondernemingen in Nederland en in hoofdlijnen aangeven wat de achtergronden en onderliggende logica is van het institutionele kader;
- uitleggen wat de belangrijkste concepten zijn uit het Conceptual Framework van de International Accounting Standards Board (IASB), en uitleggen hoe deze zich verhouden tot geselecteerde theoretische concepten;
- opzoeken en uitleggen wat er in de belangrijkste wettelijke bepalingen rond de jaarrekening in Nederland (titel 9 boek 2 BW) is bepaald over een gegeven verslaggevingsvraagstuk;
- beschrijven wat de meest voorkomende verwerkingwijzen zijn voor de selectie van posten en transacties die bij dit vak aan de orde komen;
- voor de selectie van transacties en posten: een gegeven vraagstuk uitwerken in de vorm van een gemotiveerde keuze voor een verwerkingwijze, journaalposten, en/of volledige financiële overzichten (balans, resultatenoverzicht, kasstroomoverzicht);
- herkennen en uitleggen op welke manier een post of transactie uit de behandelde selectie van onderwerpen in een gegeven fragment uit een jaarrekening is verwerkt;
- een gemotiveerd standpunt innemen over een in de loop van het vak behandeld onderwerp met argumenten ontleend aan verschillende referentiekaders (zoals bestaande regelgeving en theoretische concepten).

### **Inhoud vak**

De externe financiële verslaggeving in de vorm van een jaarrekening (en in de vorm van kwartaalberichten bij beursgenoteerde ondernemingen) is de basis van de communicatie tussen de onderneming en financiële belanghebbenden zoals aandeelhouders en andere vermogensverschaffers. Cijfers uit financiële verslaggeving (zoals winst, cash flow en omzet) spelen een belangrijke rol in financiële markten, maar hebben ook juridische betekenis en zijn van belang voor corporate governance. Voor grote ondernemingen is het opstellen van deze verslaggeving een complex proces. Dit is niet alleen zo omdat het nu eenmaal ingewikkeld is om de economische prestatie en positie van een dergelijke onderneming goed weer te geven, maar ook omdat er grote belangen met de verslaggeving gemoeid zijn. Vandaar dat er inmiddels een zwaar institutioneel kader van regelgeving en toezicht rond de verslaggeving is opgebouwd.

Het is de combinatie van 'cijfers' en 'regels' in de externe verslaggeving die bij dit vak centraal staat. Dat betekent dat je niet alleen je technische kennis en vaardigheden op het gebied van accounting verder ontwikkelt (zeg maar: rekenen en journaalposten maken) maar dat je ook steeds de 'waarom' vraag stelt: waarom moet ik in dit geval juist deze boeking maken? Mag het ook anders volgens de regels? Waarom zou je het anders willen? En waarom zijn de regels zoals ze zijn, zouden ze ook anders kunnen zijn? Niet iedereen vindt het makkelijk om te schakelen tussen techniek en de bredere context waarin de techniek wordt toegepast, maar het is een onmisbare vaardigheid voor iedereen die beroepsmatig met externe verslaggeving werkt. Het is ook wat externe verslaggeving tot een boeiend vakgebied met een eigen kleur maakt.

### **Onderwijsvorm**

Hoorcolleges.

Werkcolleges.



**Toetsvorm**

Schriftelijk tentamen - individuele beoordeling.  
Tussentoets - individuele beoordeling.

**Literatuur**

David Alexander, Anne Britton, Ann Jorissen, Martin Hoogendoorn, Carien van Mourik (2014), International Financial Reporting and Analysis 6e, Cengage Learning, (ISBN-13: 9781408088449 / ISBN-10: 1408088444).

Geselecteerde teksten uit wet- en regelgeving (public domain of toegankelijk via [ubvu.vu.nl](http://ubvu.vu.nl)).

**Vereiste voorkennis**

Geen.

**Aanbevolen voorkennis**

Accounting I en Accounting II.

Voor studenten uit andere bacheloropleidingen:

- Bedrijfskunde: Accounting I en Accounting II;
- International Business Administration: Accounting en Accounting in Multinational Enterprises.

**Overige informatie**

De inhoud van dit vak wordt als voorkennis verondersteld bij het vak Advanced Financial Reporting in de Master Accounting and Control.

## Financial Management in Health Care Organizations

<b>Vakcode</b>	E_EBE3_FMHCO ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. G. Budding
<b>Examinator</b>	dr. G. Budding
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

In the Netherlands more than 15 percent of the Gross Domestic Product (GDP) is spent on health care. Based on the long-term trends that are visible in healthcare, such as the aging population, comorbidity, individualization, self-direction and the unlimited availability of information, it is clear that the expenditure on health care will continue the coming years. The government is looking for measures to control this. In order to operate efficiently, health care managers knowledge of the playing field in which health care organizations are essential to make a good translation for the internal control on the basis of management information. The course Financial Management for Healthcare Organizations is part of the minor Health care management and provides students tools and instruments which are essential for the financial management of health care organizations such as hospitals, health insurers and primary care organizations.

At the end of this course students have developed knowledge and competences in different fields of financial management in the health care:

- Students are able to discuss the role of financial management in health care organizations (Academic skills);
- Students can explain how developments in health care affect cost of health care organizations (Academic skills);
- Students have knowledge of the different costing systems and are able to apply these costing systems in a health care context (Link with practice);
- Students are able to develop budget systems and are able to evaluate the effectiveness of budgeting (Link with practice);
- Student are able to design and interpret performance measures in a health care context (Link with practice);
- Students are able to explain the specific characteristics and additional requirements of financial reporting for health care organizations (Knowledge);
- Students are able to calculate and analyze financial ratios of health care organizations (Knowledge);
- Students understand the meaning of the governance codes for health care organizations and the quality of care these organizations deliver (Knowledge).

### **Inhoud vak**

This course is relevant for FEWEB students who want to apply financial accounting, management accounting and management control knowledge in healthcare organizations. The course will also provide medicine students, earth & life science students and social sciences students who are going to work as clinicians or health care managers relevant financial management tools and instruments to deal with health care organization topics. More specifically, this course pay particular attention on the usefulness of management accounting information, management control systems and financial accounting information to support considered decisions in order to manage economically healthy businesses in the healthcare sector.

### **Onderwijsvorm**

Lectures.  
Tutorials (with cases).  
E-learning modules.

### **Toetsvorm**

Multidisciplinary case.

### **Literatuur**

Zelman W.N., M.J. McCue, N.D. Glick and M.S. Thomas. Financial Management of Health Care Organizations: An Introduction to Fundamental Tools, Concepts and Applications, 4th edition, John Wiley & Sons.

Syllabus

### **Vereiste voorkennis**

None.

### **Aanbevolen voorkennis**

None.

## **Financial Markets and Institutions**

<b>Vakcode</b>	E_EBE3_FMI ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J. Wrampelmeyer
<b>Examinator</b>	dr. J. Wrampelmeyer
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### **Doel vak**

In the course, you develop a deep understanding of financial markets, bank supervision and central banking (Academic skills, Knowledge). You learn to analyze central bank policies and bank supervision using the concepts from the literature (Bridging theory and practice).

After the course, you can:

- state stylized facts of the term structure of interest rates;
- describe the structure of the banking sector and banking supervision;
- define the principles of monetary policy;
- classify policies of the major central banks;
- describe approaches to managing systemic risk;
- explain the bank supervision framework;
- interpret central bank policies in terms of objectives.

### **Inhoud vak**

Financial market are playing an important role in a modern economy. This course promises to give students the latest and greatest in how the financial system operates and where its weaknesses lie. It is an important building block for understanding our economy and students can connect micro and macro theories to the concepts developed in this course. The course also provides the necessary background for a future career in a policy environment or financial institution.

### **Onderwijsvorm**

Lectures.  
Tutorials.

### **Toetsvorm**

Written exam – Individual assessment.  
Interim Assignments – Group assessment.

### **Literatuur**

- Mishkin, Matthews and Guiliodori (2013) Economics of Money, Banking and Financial Markets: European edition, 1st European edition, Pearson. ISBN 978-0273731801
- Additional readings will be announced on Blackboard.

### **Vereiste voorkennis**

Finance I or equivalent.

### **Aanbevolen voorkennis**

Finance I, Finance II and Corporate Finance.

## Overige informatie

It is not allowed to follow this course if you already earned credits (ECs) for the course Finance, Banking & Insurance from the old curriculum or International Financial Management from the new curriculum.

## Financial Modelling and Derivatives

<b>Vakcode</b>	E_IBK3_FMD ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. T.C. Dyakov
<b>Examinator</b>	dr. T.C. Dyakov
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

In this course you will learn about financial modelling of risk and financial derivatives.

In the financial modelling module, the central concept is the relationship between risk and return on financial assets (Knowledge). The goal of this part of the course is to gain insight into the risk associated with financial portfolios and investments and to be able to calculate/estimate such risk on the basis of historical data. Furthermore, other goal is to learn how to construct portfolios on the basis of mean-variance optimization and how to benefit from diversification possibilities. Finally, another goal is to learn how to compute expected returns on investments on the basis of the Capital Asset Pricing Model and multifactor models (Quantitative skills).

In the derivatives module, the goal is to gain insight into various financial derivatives such as futures and options, their properties, valuation and risks associated with them (Knowledge). Another goal is to learn how these derivatives can be used to hedge financial risks (Quantitative skills).

Upon accomplishing these goals, you will gain new academic, research and quantitative skills, as well as develop your professional knowledge in the area of financial risk and derivatives. Furthermore, by illustrating the concepts with examples of portfolios, investments and hedging problems provided by financial institutions, we will bridge the gap between theory and practice, enabling you to translate theoretical concepts into practical applications (Link to practice).

### Inhoud vak

Central topics in financial modeling that will be discussed are:

- measures of risk in financial markets: variance and volatility of returns;
- trade-off between risk and return;
- estimation of average return and volatility;
- concepts of covariance and correlation; their estimation;
- risk and return of portfolios;

- diversification;
- universal risk measures: Value-at-Risk and Expected Shortfall;
- concept of efficient portfolio. Markowitz model;
- CAPM;
- risk premium and beta;
- multifactor models of risk.

Central topics in the part on derivatives that will be discussed are:

- types and characteristics of financial derivatives;
- use of derivatives in risk hedging;
- options: determining option price with the help of the binomial tree;
- sensitivities of options (Greeks);
- Black-Scholes model for option pricing and its assumptions;
- delta hedging of options;
- implied volatilities and volatility smiles;

### Onderwijsvorm

Lectures.

Tutorials.

### Toetsvorm

Written midterm test, written exam and computer assignment.

### Literatuur

J. Berk and P. DeMarzo (2013), Corporate Finance, Pearson, 3rd Global Edition, ISBN 9781783990320, chapters 10-13, 20-22 and 30).

### Aanbevolen voorkennis

Finance I and Quantitative Research Methods I and II.

## Forensic Statistics

<b>Vakcode</b>	XB_41002 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	prof. dr. R.W.J. Meester
<b>Examinator</b>	prof. dr. R.W.J. Meester
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Understand the basics of forensic statistics and probability, and being able to apply these to concrete cases.

### Inhoud vak

We treat the following subjects:

1. The general Bayesian framework for evidence evaluation, with prior, posterior, and likelihood ratios
2. Some philosophy about the meaning and interpretation of probabilities in a forensic context.
3. The statistics of DNA evidence.
4. The island problems.

5. Bayesian networks - theory and applications.
6. Combination of evidence.
7. The role of p-values.
8. The basics of belief functions and their role in forensic statistics.
9. Familial search and statistical and probabilistic aspects of database searches
10. Model validation.

The course will be a natural mixture of theory and application. All theory will be illustrated with real data and real cases. We also plan a site visit to the NFI, the Dutch Forensic Institute in The Hague.

### Onderwijsvorm

Integrated lectures and exercise classes.

### Toetsvorm

1. Witten exam
2. Midterm exam
3. Homework assignments

### Literatuur

This will be announced on the Blackboard page.

### Vereiste voorkennis

The students should have followed a basic course in both probability and statistics.

### Doelgroep

Bachelor Mathematics

### Overige informatie

Lcturers:

Prof.dr. Ronald Meester

Prof.dr. Marjan Sjerps

Prof.dr. Klaas Slooten

## Foundations and Forms of Entrepreneurship

<b>Vakcode</b>	E_BK3_FFE ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. W. Stam
<b>Examinator</b>	prof. dr. W. Stam
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Academic skills: Students are able to critically analyze the opportunities and constraints that shape entrepreneurship in different contexts using insights from academic literature, and can provide theoretically sound recommendations for overcoming key management challenges faced by entrepreneurs.

**Research skills:** Students are able to conduct a feasibility study of a new business idea that validates the proposed customer needs and market potential by systematically collecting, analyzing, and reporting relevant data.

**Knowledge:** Students understand the core theories and concepts in the field of entrepreneurship, they are able to analyze, compare, and apply these theories, and are knowledgeable about the different types of entrepreneurship and the process of launching new entrepreneurial ventures.

**Bridging theory and practice:** Students are knowledgeable about the importance of entrepreneurship in the 21st century global economy as well as recent developments in entrepreneurial activity across different contexts, and are able to apply entrepreneurship theories and concepts to identify solutions for management challenges faced by real world entrepreneurs.

**Social skills:** Students are able to work effectively in teams and are able to orally present their own business ideas as well as solutions to assignments that require them to develop a theoretical analysis and practical recommendations regarding entrepreneurship-related management problems.

### **Inhoud vak**

Foundations and Forms of Entrepreneurship is an introductory course for students who like to learn about entrepreneurship, its role and importance in our society, and the process by which entrepreneurs transform new ideas into successful business ventures. Entrepreneurship is commonly associated with the creation of new businesses, but it also captures a distinct mindset that is valuable across a wide range of contexts. In this course, students learn to understand and apply basic theories from economics, sociology, and psychology to study key topics in entrepreneurship. These include the role of entrepreneurship in economic growth; traits, motivations and behaviors of entrepreneurs; the process of identifying, evaluating and exploiting entrepreneurial opportunities; business planning and financing for new ventures; managing growth and founder-CEO succession; social entrepreneurship and corporate entrepreneurship. Theoretical understanding of these subjects is applied to real world cases focusing on key management challenges faced by entrepreneurs, and a team project in which students conduct a feasibility study to validate the customer needs and market potential for a new business idea.

### **Onderwijsvorm**

Lectures  
Tutorials

### **Toetsvorm**

Assignments – Group assessment  
Assignments – Individual assessment  
Written exam – Individual assessment  
Mandatory attendance tutorials and (guest) lectures

### **Literatuur**

Textbook  
Selection of articles and cases

**Vereiste voorkennis**

Students must have completed at least 90 EC of their own Bachelor programme.

**Overige informatie**

This course is the first course of the FEWEB Minor in Entrepreneurship.

## Foundations of Business Administration

<b>Vakcode</b>	E_MB_FBA ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. V. Duplat
<b>Examinator</b>	dr. V. Duplat
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	100

**Doel vak**

Have you ever asked yourself why organizations such as Uber or Airbnb grow so fast? How do newspaper publishers or bookstores take advantage of the digital revolution? Why do some clothing brands opt for the franchise for internationally expanding and others like Zara don't? What makes the success of Tesla cars wider in some countries than in others? Searching for answers to questions like those is the main challenge of managers nowadays. Managers must deal with the sustained pace of changes characterizing current economic, legal and technological environments throughout the world. This requires them to think out of the box and to continuously adapt the design of their organizations. New approaches to business and management constantly emerge. The course 'Foundation of Business Administration' provides insights in traditional and new approaches, while adopting an even-handed appreciation for theory and practice. The students learn to apprehend real-world business situations by applying specific theoretical perspectives or using related analytic tools. To do so, the course familiarizes the students with the three main theoretical perspectives on organizations (Modern, Symbolic-interpretative and Post-modern perspectives) and presents analytical tools and framework rooted in those perspectives. After following the course students:

- Have an advanced understanding of the traditional and emerging theoretical frameworks and concepts developed for studying organizations
- Are able to adopt theoretical frameworks and apply tools and framework to real-world situations and organizations
- Are able to report, expose and defend their analyses and business recommendations, both verbally (report) and orally (presentation and video)
- Are able to work in small teams and efficiently allocate tasks among team members under time pressure

**Inhoud vak**

The course is devoted to the study of organizations. During the lectures, three main theoretical perspectives and related sets of assumptions are introduced. These lectures are organized in five parts:



(1) introduction of the three perspectives and their assumptions over time, (2) interdependency between organizations and their environment, (3) organizational social structure and organizational culture, (4) technology and physical structure of organizations, and (5) organizational power, control and conflict. Throughout the lectures, each perspective, concept and analytical tool is presented by referring to real-world and current business situations. Business and managerial articles from Harvard Business Review, McKinsey Quarterly and MIT Sloan Management are associated with each lecture to enrich students' learning and bridge theory with practice. In addition, lectures are combined with a company visit, business case studies and a consulting project. Students are challenged to mobilize the content of the lectures for building their own understanding of choices made by organizations. This course is relevant for students wishing to appreciate challenges that organizations face and how those challenges can be approached and dealt with. The different fields of expertise of the students who attend the course represent a key asset. This diversity is used as a means to strengthen the learning experience!

### Onderwijsvorm

Lectures, tutorials and a company visit. Lectures start with a practice-oriented question, which is addressed by introducing theory. A company visit will offer students an opportunity to understand how firms must quickly adapt their business model and physical structure to the rapidly changing technological environment and worldwide competition. Throughout the tutorials, students will apply the theoretical frameworks and analytical tools introduced in the lectures to real-world organizations and situations. To this end, the tutorials combine two case studies and a consulting project. Via lectures and tutorials, students are encouraged to develop and expose their personal position on choices made by existing organizations. They are also expected to actively contribute to the group's experience and learning.

### Toetsvorm

Three group assignments under the form of a consulting project (oral presentation, video-making, and written reports), one individual assignment (essay), and a final written exam.

### Literatuur

- Required reading: Hatch & Cunliffe, Organization Theory. Modern, symbolic and postmodern perspectives. 3rd edition. Oxford: Oxford University Press, 2012.
- Selection of business and managerial articles that will be posted on Blackboard.

## Foundations of Microeconomics

<b>Vakcode</b>	E_ME_FM ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. P.A. Gautier
<b>Examinator</b>	prof. dr. P.A. Gautier
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	100

### Doel vak

The objective of this course is to provide a historical overview of the development of Microeconomics and to develop the basic theory of demand and supply, market equilibrium, market efficiency and market failure.

Specific learning outcomes upon completion of this curricular item are:

- Understanding of the concept of value within its historical context.
- A basic knowledge of key principles of microeconomics (as listed in the next paragraph).

### Inhoud vak

We start with explaining why economists use models and that economic models differ from models in other sciences. Then, we introduce the basic three concepts of (micro) economics: optimization, equilibrium and empiricism. The rest of the course then discusses:

- Demand, Supply and equilibrium
- Perfect Competitive models
- Trade
- Externalities and public goods
- Regulation and the role of the government
- The labor market
- Monopoly
- Game Theory, Auctions, School matching mechanisms
- Oligopoly and Monopolistic competition
- Time and Risk
- Social Economics

### Onderwijsvorm

Lectures and working groups

### Toetsvorm

Problem sets and written examination

### Literatuur

Acemoglu, Daron, David Laibson and John A. List, 2016, Economics, Harlow, Essex, Pearson Education Ltd. ISBN 13: 978-1-292-07920-2, incl. access code MYECONLAB.

### Vereiste voorkennis

Basic knowledge of math and statistics, as provided in the academic core of any academic program at the VU University Amsterdam or equivalent.

## Foundations of Strategic Management

<b>Vakcode</b>	E_IBK3_FSM ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. B.V. Tjemkes
<b>Examinator</b>	dr. B.V. Tjemkes
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

## **Doel vak**

At the end of the course, students should be able to:

- Critically reflect on foundational texts and central approaches and theories in strategic management and their underlying assumptions, by reading and interpreting texts from leading authorities in strategic management;
- Recognize, understand, construct, and critically assess positions in classical scientific debates in strategic management;
- Develop an own well-substantiated positioning in relation to a particular contemporary strategic management debate based on literature study
- Critically review the work of peers and suggest improvements.

Thus by following this course, students advance essential scholarly knowledge and research skills within the area of strategic management which goes beyond introductory courses such as Organization Theory and (International) Strategy. They also develop a well-informed overview of the general field by reviewing each other's work and by providing recommendations that aim at helping to improve course participants' work. As such students will also develop their social skills. Together, these skills constitute an essential basis for successfully continuing master studies in the area of strategic management and organization.

The course focuses primarily on the following overall learning objectives in line with the IBA/BK bachelor programmes:

- Academic skills in analysis, abstraction, argumentation, and application.
- Knowledge in terms of a comprehensive understanding of the fundamentals with distinctive in-depth knowledge of the strategic management discipline.
- Broadening students horizons by having a good understanding of current events on a global scale.

## **Inhoud vak**

The course aims to familiarize students with a number of classical and influential debates in the strategic management literature. This includes examining some of the "founding fathers" of strategy, such as Clausewitz and Sun Tzu, as well as the work of more contemporary management thinkers such as Michael Porter, Henry Mintzberg, Peter Drucker, and Alfred Chandler. Students will read both original texts as well as recent studies applying these perspectives, in order to gain a better understanding how classical debates inform current strategic management research and practice.

In addition to acquiring general knowledge about the scientific field of strategic management, the focus is on critically reviewing the literature. Particular attention will be given to identifying and assessing different and potentially diverging positions in these central debates in the field. Students are thus invited and challenged to develop their own opinion and a genuinely scholarly attitude towards the literature. This approach will build on the dialectical approach, which has for instance been adopted in (international) strategy. This not only contributes to a deeper understanding of central debates in strategic management, but also provides an important basis for a students' further development in this field.

## **Onderwijsvorm**

Lectures  
Tutorials

### Toetsvorm

Research Paper – Individual assessment  
Essays based on readings – Individual assessment  
Literature review and presentation – Team assessment

### Literatuur

This course is article based.  
Readings will be announced in course manual.

### Aanbevolen voorkennis

BK:  
1.2 Organization Theory; 1.3 Academic Skills; 2.2 Strategy; 2.5  
Corporate Entrepreneurship

IBA:  
1.2 Organization Theory; 1.3 Academic Skills; 2.2 International  
Strategy; 2.4 BRM I - Quantitative

## Functionaalanalyse

<b>Vakcode</b>	XBU_417013 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

### Inhoud vak

<http://studiegids.uva.nl/xmlpages/page/2016-2017/zoek-vak/vak/26082>

### Doelgroep

3W

### Overige informatie

Dit vak wordt aangeboden op de UvA. Voor meer informatie verwijzen we je naar: FNWI Education Service Centre, Science Park 904, servicedesk-esc-science@uva.nl, +31 (0)20 525 7100.

Inschrijving via <https://m.sis.uva.nl/vakaanmelden> is verplicht.

## Galoistheorie

<b>Vakcode</b>	XBU_417008 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Lesmethode(n)</b>	Hoorcollege, Deeltoets extra zaalcapaciteit, Werkcollege
<b>Niveau</b>	300

## Inhoud vak

<http://studiegids.uva.nl/xmlpages/page/2016-2017/zoek-vak/vak/30529>

## Overige informatie

Dit vak wordt aangeboden op de UvA. Voor meer informatie verwijzen we je naar: FNWI Education Service Centre, Science Park 904, servicedesk-esc-science@uva.nl, +31 (0)20 525 7100.

Inschrijving via <https://m.sis.uva.nl/vakaanmelden> is verplicht.

## Geschiedenis van de Islam tot 1800

<b>Vakcode</b>	G_GESISTOT18 (100031)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Godgeleerdheid
<b>Coördinator</b>	ing. H. Quadir MA
<b>Examinator</b>	ing. H. Quadir MA
<b>Docent(en)</b>	ing. H. Quadir MA
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	100

## Doel vak

De student:

- is vertrouwd met de hoofdlijnen van de ontstaansgeschiedenis en de geschiedenis van de islamitische samenlevingen tot aan het begin van de 19de eeuw;
- heeft kennis gemaakt met de geschiedenis van de Koran en van belangrijke stromingen in de studie van de traditie (hadîth), theologie (kalâm) en jurisprudentie (fiqh);
- heeft grondig kennis gemaakt met de belangrijkste bestanddelen van de "Klassieke Islam", in relatie tot hun maatschappelijke en politiek-historische context;
- beschikt over de vereiste voorkennis en de vereiste bibliografische kennis van zaken om zijn/haar studie tot aan de hedendaagse periode uit te breiden en voort te zetten.

## Inhoud vak

In deze module worden de hoofdlijnen van ontstaan en ontwikkeling van de Islam aangereikt als sleutel voor het begrijpen van de religie van de Islam als levende godsdienst van de moslims als gemeenschappen en samenlevingen, ook van islamitische gemeenschappen in minoritaire posities. Door historische analyse leren de studenten oog te krijgen voor de dynamiek van de ontwikkeling van de geloofsleer, jurisprudentie en ethiek onder uiteenlopende omstandigheden. Ook zal er aandacht zijn voor de voorbeeldfunctie van de levenswijze van de Profeet en diens invloed op het dagelijks leven van individuele moslims en op de inrichting van de staat.

## Onderwijsvorm

Werkcolleges met thuisopdrachten en presentaties. Bestudering van een standaardwerk en aanvullende teksten. Verder wordt een aantal opdrachten ingeleverd en gepresenteerd, hetzij papers, hetzij vragenlijsten.

### Toetsvorm

Vier thuis-opdrachten (10%); presentatie (10%); schrijfofdracht (20%); schriftelijk tentamen (60%).

Aanwezigheids- en participatieplicht (80%).

Tijdige inzending voorafgaand aan het college van de thuisopdrachten volgens bindende afspraken tussen docent en studenten.

Bij de beoordeling van schriftelijk werk leidt een overmaat aan taal- of grammaticale fouten tot aftrek. Onbegrijpelijke teksten worden geretourneerd.

### Literatuur

Verplichte literatuur:

Lapidus, Ira M.: A history of Islamic societies. (3rd ed.) Cambridge University

Press, 2014. ISBN 978-0-521-73297-0 (Chapters 1 t/m 42, pp. 1-476)

Tijdens de colleges zal de docent in zijn inleiding steeds ook aandacht schenken aan het traceren van aanvullende wetenschappelijke literatuur.

### Overige informatie

Aanwezigheid en actieve participatie tijdens de werkcolleges (80%).

## Getaltheorie

<b>Vakcode</b>	X_400632 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. S.R. Dahmen
<b>Examinator</b>	dr. S.R. Dahmen
<b>Docent(en)</b>	dr. S.R. Dahmen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

### Doel vak

- Knowing elementary concepts and techniques from number theory and being able to apply these to concrete problems.
- Being acquainted with a number of modern developments and open problems within number theory en being able to explain their importance.
- Knowing certain number theoretic algorithms and being able to perform and analyse them (e.g. by using the mathematics software system "SageMath").

### Inhoud vak

The following subjects will be treated:

- integers, primes, prime distribution
- congruences, primitive roots
- primality tests, factorization
- public key cryptography
- quadratic reciprocity
- Diophantine equations, abc-conjecture
- algebraic numbers, algebraic integers

- continued fractions (if time permits)

Next to a theoretical approach, practical/algorithmic aspects will also be covered. In particular, the mathematics software system "SageMath" will be used to perform explicit number theoretic calculations.

### Onderwijsvorm

Lectures and exercise sessions.

### Toetsvorm

Homework exercises (25%) and a final written exam (75%).

Extra rule: the grade for the final exam must be at least 5.0 in order to pass the course.

### Literatuur

Lecture notes, the relevant literature will be made available online.

### Aanbevolen voorkennis

Basic knowledge of groups, rings, and fields is essential.

### Overige informatie

Basic knowledge of groups, rings, and fields is essential.

## Global Political Economy

<b>Vakcode</b>	S_GPE ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. E.B. van Apeldoorn
<b>Examinator</b>	dr. E.B. van Apeldoorn
<b>Docent(en)</b>	dr. E.B. van Apeldoorn, dr. N.A. de Graaff
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

- Acquiring knowledge of and insight into the contemporary global political economy, in particular how the contradictory process of globalization reshapes the relationship between states and markets;  
- Introduction to and an understanding of rival concepts and theories within International Political Economy and their application to issues in contemporary global political economy.

### Inhoud vak

This course offers students an introduction to the subject of International Political Economy (IPE). Throughout, the course will be guided by the question to which extent, and how, the current process of globalization is changing the relationship between states and markets, between public regulation and the private economy, between state and capital. Traditionally IPE studies the relationship between 'the economic' and 'political' within the interaction of – patterns of co-operation and conflict between – national states. If anything, the global financial and economic crisis of 2008 and beyond has made clear that this state-centric perspective is no longer adequate. At the same

time the crisis has also shown that states, although apparently vulnerable in the face of global market forces, are also crucial when it comes to protecting the workings of global capitalism. This shows that indeed the relationship between states and markets is not a one-way street. In other words, politics and policies are shaped by the interests and activities of transnational (market) actors and by economic globalization but the latter is also driven by politics, and shaped (indeed enabled) by the policy choices that states make. It is from this perspective that this course will examine the various approaches within international political economy; the historical evolution of the global political economy; the globalization of production and the role of transnational corporations; the international monetary system and the globalization of finance; the global financial crisis and the eurozone crisis; the political economy of development; the rise of China and other emerging powers, and the political economy of energy and the environment.

### Toetsvorm

Written Exam.

### Literatuur

Lectures.

### Aanbevolen voorkennis

Some introductory-level knowledge of political science and International Relations as well as of basic (macro-)economics is recommended but relevant concepts will also be explained in class.

## Global Religion and Local Diversity

<b>Vakcode</b>	S_GRLD ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	prof. dr. J.T. Sunier
<b>Examinator</b>	prof. dr. J.T. Sunier
<b>Docent(en)</b>	prof. dr. J.T. Sunier
<b>Lesmethode(n)</b>	Studiegroep
<b>Niveau</b>	200

### Doel vak

Students are able to describe and interpret the role of religion under global conditions. They understand the complex interrelationship between religion on a global scale due to the role of modern mass media on the one hand and local diversification of religious practices and phenomena. They see the role of religion in processes of identity construction in various settings and understand central concepts and theories in the study of religion.

### Inhoud vak

Whether we like it or not, religion has become one of the main political and social issues of our time. Religion has become a major factor in a wide variety of global developments and processes. The place of religion in the contemporary societies cannot be properly understood without



taking into account the fact that religions have become globalized. In the first place due to migration processes across the world, religions have traveled too. As a consequence local religious diversity has increased tremendously. Globalization has also brought about homogenization tendencies in all spheres of life. Paradoxically, however, the homogenizing tendencies of globalization at the same time reinforce processes of cultural heterogeneity and diversification. Globalization has also brought about anxieties about the disruption of local cultures and communities and thus triggered a process of 'social closure'. Modern nation states attempt to domesticate global flows, particularly when they are said to jeopardize the national political, social and cultural status quo. Events taking place on the other side of the world exert direct influence, at least bear relevance to the production of religious knowledge and processes of community building. We cannot understand for example experiences of young Muslims in Western cities without taking into account what happens in Afghanistan. Modern mass media have made local religious leaders into world celebrities. The prominence of the Dalai Lama, leader of the Tibetan Buddhists, has turned Buddhism into a world religion. Pentecostal churches are the fastest growing religious movements in the world today. At the beginning of the 21st century religion has become a strong social and cultural force that is crucial to the politics of belonging on a global scale. This course explores a broad range of past and contemporary studies in Western and non-Western societies. It focuses not only on institutionalized religious traditions, but on all modalities and expressions of religiosity.

#### **Onderwijsvorm**

Lectures and tutorial

#### **Toetsvorm**

Written examination (70%) and assignments (30%)

#### **Literatuur**

A compilation of book chapters and articles; most of which will be digitally available.

#### **Doelgroep**

Obligatory course for students in the minor Frontiers in Multicultural Societies; optional course for 2nd and 3rd year Bachelor's students and students of the Exchange Programme.

#### **Overige informatie**

Basic knowledge in the social sciences is requested.

## **Grand Challenges for Sustainability**

<b>Vakcode</b>	E_IBA3_GCS ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. G.C. van der Meijden
<b>Examinator</b>	dr. G.C. van der Meijden
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

## **Doel vak**

“Sustainable development is development that seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future generations” (from the Brundtland report).

The objective of the course is to describe and analyse the Grand Challenge to find policies to realize sustainable development after making the concept operational.

**Academic Skills, Knowledge.** Students learn why the management of natural resources and maintenance of environmental quality cannot be left to the free market, due to market failures. After taking this course, students are able to describe whether the government can, and, if so, how the government should intervene to obtain sustainable development and how to combat the challenges of climate change, biodiversity loss, and resource depletion. The student will become aware of the limitations and constraints that need to be taken into account in trying to reach the goal of sustainable development.

**Research Skills, Quantitative Skills.** Students learn to apply the theoretical and empirical economic methods necessary to study the effects of market failure, the optimal management of (non)renewable natural resources, the potentially adverse effects of resource abundance, the effects of different policy interventions, and the valuation of environmental quality.

**Bridging Theory and Practice, Social Skills.** By playing an interactive in-class game, students will experience how the management of renewable natural resources, such as fisheries, works in practice. By changing the rules of the game, students will find out which conditions are conducive to obtain a sustainable outcome. Furthermore, an in-class emission permits trading game will make the students aware of the functioning of permit markets in practice. Depending on the number of participants in the course, students will also learn to give a presentation about a scientific article dealing with a sustainability-related topic.

## **Inhoud vak**

The course will start with a general introduction by sketching several important sustainability issues, illustrated by empirical evidence. The concept of sustainability will be introduced in several varieties. Attention will be paid to ethical aspects, such as inter- and intragenerational equity (young versus old, poor versus rich). We will also show that sustainability is strongly related to externalities, that may be detrimental to welfare. This is done at several levels of aggregation going from the world's economy through local governments, businesses to individual consumers. The emphasis will be on the conflicting interests of parties: developed versus developing regions, green versus brown consumers, myopic profit maximizers versus stakeholder oriented firms, etc. In view of the complexity of the issues at stake, and given the many facets of sustainable development, a selection is made of problems that are pertinent to sustainable development. Some of the topics that may be dealt with during the course are:

- Economics of climate change, based on insights from climate science and economics.
- Sustainability and development, with attention for urbanization in

developing regions.

- Green growth, with a focus on technological change and induced innovation.
- Energy policy, with attention for the Dutch energy agreement and the German 'Energiewende'.
- Management of renewable (e.g., fisheries, forests) and nonrenewable (e.g., fossil fuels) natural resources.
- Transboundary environmental problems, which we will analyze by using elementary game theory to study the strategic interaction between countries.

### Onderwijsvorm

Lectures

Tutorials

### Toetsvorm

Written exam – Individual assessment.

Assignments – Individual or group assessment (depending on number of participating students).

Mandatory attendance during two tutorial games.

### Literatuur

Readings will be announced via Blackboard

### Aanbevolen voorkennis

Microeconomics

## Health Care Management

<b>Vakcode</b>	E_EBE3_HCM ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. T.L.C.M. Groot
<b>Examinator</b>	prof. dr. T.L.C.M. Groot
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

This course introduces organizational theories that are relevant to health care organizations. Students will practice in applying these theories to real-life problems in health organizations. Both approaches contribute to enabling students to:

- gain understanding of different management practices (Knowledge; Bridging theory and practice);
- analyse the influence of management practices on motivation of individuals (Research skills);
- understand and solve situations of conflict within health care organizations (Academic skills; Knowledge; Bridging theory and practice);
- develop strategies for health organizations (Research skills; Bridging theory and practice);
- have theoretical and practical insight into leadership and leadership styles (Knowledge; Bridging theory and practice);

- communicate effectively (Social skills);
- manage and coordinate teams of health care professionals (Knowledge; Social skills).

### **Inhoud vak**

Health organizations are fast changing entities, partly driven by new technological developments and by social complexity. This course helps students how to effectively contribute to the performance in health care institutions. This requires a good understanding of the macro-elements of organizational behavior, such as management abilities and strategic orientation. The following subjects will be addressed: motivation, management of professionals, leadership and leadership styles, and communication. In this course, relevant management theories will be discussed and applied to the health care sector. Students will practice in work groups on the assignment to prepare a policy paper.

### **Onderwijsvorm**

Lectures.  
Tutorials.

### **Toetsvorm**

Written exam – Individual assessment.  
Assignment – Performance as project manager.

### **Literatuur**

Textbook to be announced.  
Additional reading (will be published on Blackboard).

### **Vereiste voorkennis**

None.

### **Aanbevolen voorkennis**

None.

## **Health Economics**

<b>Vakcode</b>	E_EBE3_HEC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. M. Lindeboom
<b>Examinator</b>	prof. dr. M. Lindeboom
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### **Doel vak**

In this course students learn to:

- make economic analyses of health care policies (Knowledge; Research skills);
- analyse health care policy objectives (Research skills);
- measure the extent in which health care policy objectives have been reached (Research skills);
- formulate economic requirements for effective health care systems (Academic skills);

- identify causes of cost increase in health care (Academic skills);
- perform longitudinal analyses of cost developments in health care (Research skills);
- design measures for effective cost containment (Academic skills).

### Inhoud vak

The central theme of this course is the economic optimization of health care systems. This course provides students the necessary economic knowledge to analyse health care policy and to analyse the economic effects of health care policy measures. The following topics will be addressed:

- health care system's main objectives;
- methods to evaluate the economic performance of health care;
- the analysis of the influence of market coordination;
- the causes of growth in health care expenditures;
- diversification of health care processes and ways to control this variation;
- cost control in health care.

### Onderwijsvorm

Lectures.  
Tutorials.

### Toetsvorm

Written exam - individual assessment.  
Assignment (policy report).

### Literatuur

Selection of chapters from Bhattacharya, J., T. Hyde and T. Tu (2014):  
Health Economics, Palgrave MacMillan.  
Papers, to be published on Blackboard.

### Vereiste voorkennis

None.

### Aanbevolen voorkennis

None.

## Heuristic Optimization Methods

<b>Vakcode</b>	E_EOR3_HOM ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. J.A. Gromicho Dos Santos
<b>Examinator</b>	prof. dr. J.A. Gromicho Dos Santos
<b>Docent(en)</b>	prof. dr. J.A. Gromicho Dos Santos
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

The learning outcomes of the course on Heuristic Optimization Methods are the following:  
Academic skills:

In this course the students learn to distinguish problems that require heuristics to be efficiently solved from those that can be solved optimally. They also learn how to select and design heuristics for given problems.

**Quantitative methods:**

The students learn how to distinguish heuristics in terms of efficiency, solution quality and other quantitative aspects.

**Professional skills:**

The students will become able to solve challenging practical problems, which are within the realm of professionals only.

**Social skills:**

In this course the students work in teams. They learn how to combine different skills, backgrounds and interests to solve challenging and complex problems.

**Link to practice:**

The lecturers have a sound practical record, complementing their extensive academic achievements. A representative choice of illustrative problem domains from practice is therefore guaranteed, as well as a good understanding on how to bridge the gap between theory and practice. Furthermore, the heuristics taught are among the best used in practice.

### **Inhoud vak**

Heuristics form an indispensable tool for everyone working in operations management.

Problems arising from practice are often too hard to solve exactly and heuristics are relatively simple methods that may provide feasible solutions of good quality.

The course covers two areas: the first is about heuristics to solve general problems and the second is focused on the application of heuristics to vehicle routing problems. The field of routing is so rich that virtually all published heuristic ideas have been applied to it.

The course is further divided into three parts, each of which first covers general problems and then focuses on routing.

These three parts are:

- Classical heuristics to construct a feasible solution
- Improvement heuristics based on structured local search
- Heuristics aiming at escaping local optima

Regardless of the part being addressed attention is paid to:

- Meta-heuristics, i.e., general ideas applicable to a large variety of domains
- Complexity analysis
- Whether a performance guarantee can be given and how to prove it
- Ways to benchmark and empirically assess quality

### **Onderwijsvorm**

Lectures

Tutorials

### **Toetsvorm**

Written exam – Individual assessment

(Interim) Assignment(s) – Group assessment

### **Literatuur**

Potential literature (to be decided):

Selection of chapters from these books:

- Michalewicz, Z. and Fogel, D.B. (2004). How to solve it: modern heuristics. Springer
- Talbi, El-Ghazali (2009). Metaheuristics: From Design to

Implementation. Wiley

- Toth, P. and Vigo, D. (2002). The Vehicle Routing Problem, 1st edition. SIAM.
- Toth, P. and Vigo, D. (2014). Vehicle Routing: Problems, Methods and Applications, 2nd edition. SIAM.

Additional readings will be announced on blackboard.

### Doelgroep

Both BA/IE students with an interest in optimization and OR/AM students with an interest in computer implementations can participate, since they will work together in teams combining knowledge and skills.

## Heuristics

<b>Vakcode</b>	X_401012 (401012)
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. J.G. Hubert
<b>Examinator</b>	prof. dr. A.E. Eiben
<b>Docent(en)</b>	prof. dr. A.E. Eiben
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

The overall objective of the course is to expose students to a "real life" problem solving situation, where the supervisor gives no hints about suitable algorithmic approaches to solve a given problem. Students will learn to understand the problem requirements and invent or find an appropriate algorithm to solve it. Bottom-line is: anything goes, as long as it works. Specific objectives include: identifying an algorithm for solving a given problem, implementing and testing this algorithm, summarising the results and self-assessing the whole approach.

### Inhoud vak

Students have to choose one of the four predefined problems and try to solve it. The problems range from combinatorial optimisation (airline scheduling) to game playing (free cell). The course offers software support for each problem, including user interface and quality assessment procedures for candidate solutions. The "only" missing part is the problem solving algorithm. Teams of three students endeavour to find and implement an algorithm and report on the results.

### Onderwijsvorm

Working groups

The course combines a free setup with intensive coaching. After two introductory lectures about heuristics and experimental methodology, the student teams are completely free to choose their algorithmic approach as was their working hours. However, twice a week we have compulsory coaching sessions (a.k.a. "brainstorming workshops") where teams discuss their ideas and progress. Reflecting on other teams' work is an important element during these sessions. The course is concluded by a

one day symposium where each team presents its solution.

### Toetsvorm

The final grade depends on the quality of the solutions found by the team, the written report, the oral presentation, and the level of activity / involvement during the coaching sessions.

### Literatuur

N.a.

### Doelgroep

3BA, 3CS, 3IMM, 3LI

## Human Capital Across the Life Cycle

<b>Vakcode</b>	E_EBE3_HCALC ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. M. Lindeboom
<b>Examinator</b>	prof. dr. M. Lindeboom
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

After following this course, the student is able to understand the concept of Human Capital, its origins early in life, how it is influenced by individual decision making concerning education and health and how it relates to productivity, growth and health care consumption and the distribution of health.

This course is an introduction to the economics of human capital with an emphasis on applied microeconomic theory and empirical analysis.

After successfully completing this course, students will be able to:

- demonstrate an understanding of the theories of investment in schooling and training, the production of health and theories on discrimination in the labor market (Knowledge).
- demonstrate knowledge of the interplay between health, education, work and income across the life cycle (Knowledge);
- apply modern economic theories in the field of education and health to practical policy problems (Bridging Theory and Practice);
- demonstrate an understanding of how technological change, globalization and institutional forces shape labor market performance (Knowledge, Quantitative skills);
- make well founded decisions about the appropriate methods to assess the returns to education and assess discrimination (Quantitative skills);
- make well founded decisions about the appropriate methods to assess the effect of health on labor market outcome and vice versa (Quantitative skills);
- discuss critically existing empirical evidence (Research skills);
- perform own empirical analysis by means of a replication exercise (Academic skills, Broadening your horizon).



## Inhoud vak

Human capital can be viewed as capital derived from investments in education and health. Both factors determine the returns on the labor market (work outcomes, income and wealth) and in general individual well-being. The joint distribution of education, work, income and health evolves across the life cycles of individuals as they grow from childhood, where they make educational choices, to adolescence and when they enter the labor market till prime ages and later when they enter the phase from working age into retirement. In the final stage the larger part of health care is consumed.

The course starts with an overview of some stylized facts concerning the returns to education, labour and health. Next, we introduce the most important microeconomic models of investment behavior in the field of education, labor (search) and health. Throughout the course, theories are confronted with empirical papers that test these theories and their consequences for public policy in the area of education, income, health and work. Finally, we address the issue of how to appropriately test for discrimination and evaluate the effectiveness of public and social policies in the field of education, income, health and work.

## Onderwijsvorm

Lectures.

Tutorials.

## Toetsvorm

Written (closed book) exam – Individual assessment.

Presentation of papers in groups of 2.

Paper in groups of 2.

## Literatuur

Chapter 12 from Barr, The Economics of the Welfare State, Oxford University Press, Edition 4 (or higher).

Chapters 4, 8, 10 & 11 uit "Cahuc P., Carcillo S. and A. Zylberberg. 2014. Labor Economics (2nd edition). MIT press".

Selected papers, to be distributed via Blackboard.

## Vereiste voorkennis

Microeconomics I.

## Aanbevolen voorkennis

Microeconomics II.

## Human Rights and Migration: Citizenship

<b>Vakcode</b>	R_HumRC (200995)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Rechtsgeleerdheid
<b>Coördinator</b>	mr. drs. M.C. Stronks
<b>Examinator</b>	mr. drs. M.C. Stronks
<b>Docent(en)</b>	mr. drs. M.C. Stronks, T.K. Last, dr. T.E. Baird, dr. P. Cuttitta
<b>Lesmethode(n)</b>	Leergroep

**Doel vak**

The purpose of this course is that you after taking this course will be able to:

- Analyse and evaluate the multi-faceted and changing character of citizenship and nationality;
- Recognise and explain the variety of rights that are connected to (European) citizenship and/or national membership;
- Critically engage with the concept of 'integration' and analyze the assimilationist shift of mandatory integration measures;
- Scrutinize the temporal dimension of citizenship and the assumed relation between the migrant, the citizen and time;
- Write a well-structured answer to an essay question.

**Inhoud vak**

What is a citizen? Which rights do migrants have? And how do these rights develop over time? These are seemingly simple questions, but sometimes while migrants enjoy all kinds of civil rights, some citizens feel treated as aliens. In this course we investigate which rights can be invoked by nationals and by migrants. We will address the different understandings of citizenship and nationality, the concept of and the rights attached to European citizenship, the difference that having or not having national membership makes, the possibility of being joined by family members from abroad, the concept of 'integration' and the relation all these different aspects of citizenship have with time. These issues will be addressed in weekly lectures and assignments.

**Onderwijsvorm**

Weekly lectures, obligatory weekly assignments.

**Toetsvorm**

Written exam. Re-examination might be an oral exam, depending on the number of participants. Submission of weekly assignments is required for taking the exam.

**Literatuur**

Will be announced on Blackboard.

**Doelgroep**

Apart from law students from the VU, the course is also available for:

Students from other universities/faculties

Exchange students

Contractor (students who pay for one course)

**Human Rights and Migration: Current Issues**

<b>Vakcode</b>	R_HumRCI (200994)
<b>Periode</b>	Periode 3
<b>Credits</b>	3.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Rechtsgeleerdheid
<b>Coördinator</b>	T.K. Last
<b>Examinator</b>	T.K. Last
<b>Docent(en)</b>	prof. mr. T.P. Spijkerboer

<b>Lesmethode(n)</b>	Leergroep, Hoorcollege
<b>Niveau</b>	300

### Doel vak

Course objectives are:

- To formulate an original research question
- To write a research paper
- To practice peer review
- To relate what is in the news to migration law scholarship
- To develop and express independent and objective opinions on current issues

### Inhoud vak

This course invites students to engage critically with a current topic in international and European migration law. Topic areas that have featured in the news in recent months will be recommended, but students must develop their own research question. Previous current issue topic areas include: family reunion, non-refoulement, immigration detention, trafficking, smuggling.

### Onderwijsvorm

One lecture on how to relate what is in the news to existing migration law scholarship and how to formulate a research question and write a research paper. An introduction to the current issue topic areas on Blackboard will also be provided during this lecture. Students will also attend one working group session to present their research proposals and peer review others' research proposals. Supervisors will offer office hours to guide students through the writing process if necessary.

### Toetsvorm

Written research proposal, presentation of that research proposal, and a final research paper. Students will work in pairs.

### Literatuur

Preliminary reading lists will be announced on Blackboard for a range of current topics.

### Doelgroep

Apart from regular students, the course is also available for:

Students from other universities/faculties

Exchange students

Contractor (students who pay for one course)

## Human Rights and Migration: The Border

<b>Vakcode</b>	R_HumRB (200996)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Rechtsgeleerdheid
<b>Coördinator</b>	mr. dr. E.R. Brouwer
<b>Examinator</b>	mr. dr. E.R. Brouwer
<b>Docent(en)</b>	mr. dr. E.R. Brouwer
<b>Lesmethode(n)</b>	Leergroep

**Doel vak**

The course aims at increasing your knowledge of the law concerning borders and your understanding of the changing meanings of borders. You will in particular broaden your knowledge of the different categories of migrants created by law and, as a consequence of this differentiation, the differences as regards the right to cross borders and the sanctioning of illegal border crossing. The course will enable you to understand the relationship between national, European and international law and to assess (the consequences of) possible conflicts among these fields of law. During the course you will enhance your ability of critical reflection on legislation and case-law on borders and on how borders work in practice. Furthermore, you will learn to cooperate with other students and to plan and develop in a particular time frame a written assignment.

**Inhoud vak**

Borders and border control may work out in practice in ways not manifest from studying law and unforeseen by the law. In the course Human Rights and the Borders, you will learn to connect your knowledge of the law on borders to societal reality. You will also attend an excursion to an organization or institute, to learn how borders work in practice. This excursion will be preceded by a working group. Aside from general topics including the law on asylum, internal and external border controls, we will address current issues such as the safety of boat migrants and the use of technologies at the borders. The precise content of the course will be announced on blackboard.

**Onderwijsvorm**

The course contains of 7 lectures, each lecture is given twice a week. Furthermore, during the course an excursion will take place, enabling students to learn how borders work in practice. Working groups will precede this excursion.

**Toetsvorm**

The course will be concluded with a written exam counting for 75% of the final mark.

Secondly, students are required to give together with one or two other students an oral presentation in which they develop on a subject related to the excursion they attended. The grade for this oral presentation counts for 25% of the final mark of Human Rights and Migration: Borders.

**Literatuur**

Will be announced on blackboard.

**Vereiste voorkennis**

Students Bachelor's degree programme Law (Rechtsgeleerdheid): only open for students who have passed all the courses of the first bachelor year.

**Identity and Diversity in Organizations**

<b>Vakcode</b>	S_IDO ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels

<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. Y. Saramifar
<b>Examinator</b>	dr. Y. Saramifar
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

### **Doel vak**

The aim is to develop insight in identity and diversity related processes of in/equality and in- and exclusion in organizational life. The goal is to provide students with the analytical instruments to analyze and assess 'what is going on' in organizational settings in which identity and diversity, as reflections of societal developments, prevent or enable people from full participation.

### **Inhoud vak**

This course is part of the minor Organizational Culture and the minor Frontiers of Multicultural Societies. Within these minors, this course explores the interplay between identity and diversity within organizations. Identity and diversity are ever more salient themes within organizations. Various approaches of identity in organizations provide different perspectives on how diverse identities relate to each other within organizational settings. Some focus on the processes of sense making, others focus on the notion of power in relation to identity in order to understand processes of in- and exclusion within organizations. Ethnicity, gender, physical condition, and age are explicit categories that could become sources of exclusion. Background, class, and education play a role in a more implicit sense. There are various reasons for organizations to become inclusive of diversity. It is commonly believed that if diversity is managed well, it could increase creativity by broadening the scope of organizations. Yet, organizations are also open arenas in which societal and global discourses of otherness and exclusion are reproduced and practiced. These processes of in- and exclusion are sometimes explicit but mostly implicit and hard to trace because they are embedded within organizational culture and taken for granted in social practice. In this course, an overview of theoretical perspectives related to identity and diversity issues will be provided, with specific attention to concepts such as power and discourse. These theoretical perspectives are used to engage with several societal discussions such as affirmative action and the introduction of quotas. Students will be challenged to reflect upon their own positioning in relation to these theories by preparing case studies in subgroups.

### **Onderwijsvorm**

Lectures, guest lectures, and group presentations.

### **Toetsvorm**

30% of the grade for the course is based on group assignments: a group presentation and a group essay. A written exam count for the remaining 70% of the grade.

### **Literatuur**

Journal articles and book chapters. Students do not need to purchase a text book.

### **Doelgroep**

Students of the Minor Organizational Culture, students of the Minor Frontiers of Multicultural Societies and exchange students.

## Inclusive Growth and Sustainability

<b>Vakcode</b>	E_EBE3_IGS ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. M.W. Hofkes
<b>Examinator</b>	prof. dr. M.W. Hofkes
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

This course aims at providing a solid understanding of economic growth and its links to sustainability and changes in well-being.

Specific learning outcomes upon completion of this curricular item are:

Knowledge:

- gaining a deep understanding of economic growth theory;
- gaining insight into drivers of growth, both theoretically as well as empirically;
- gaining insight into the relationship between growth, sustainability and changes in well-being;
- insight into the long-term balancing of growth in income, environmental sustainability and changes in other aspects of society ;
- understanding of directed technical change.

Bridging Theory and Practice:

- being able to describe and interpret patterns of growth.

Broadening your horizon:

- being able to judge the prospects of the concept of green growth;
- being able to judge the prospects of the concept of inclusive growth.

### Inhoud vak

Growth in knowledge has been the main driver of increases in income over the past 300 years, but has also changed the organization of society and has put pressure on natural resources. Major questions are why countries grow, why growth rates differ between countries and over time and how economic growth can be reconciled with societal well-being and environmental sustainability. These questions will be analysed by studying the main existing theoretical models as well as by relating empirical data to theory.

The course starts with an overview of key stylized facts relating to growth, sustainability and well-being. Next, the main theoretical models will be introduced, including the Solow model, endogenous growth models and more recent sectoral models of knowledge and innovation. There will be a special focus on the interrelationship between income growth, environmental sustainability and social well-being. Growth models will be studied that incorporate natural capital, providing insights into the possibilities of long-term

balancing of economic growth and environmental sustainability.

Finally the importance of directed technological change and the implications for policy will be addressed.

Throughout the course theoretical models will be confronted with empirical data.

### Onderwijsvorm

Lectures.  
Tutorials.

### Toetsvorm

Weekly assignments,  
Written exam

### Literatuur

To be announced.

### Vereiste voorkennis

Quantitative Research Methods I.

### Aanbevolen voorkennis

Quantitative Research Methods II, Macroeconomics II and Microeconomics II.

## Industrial Organization

<b>Vakcode</b>	E_EBE3_IO ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. E.I. Motchenkova
<b>Examinator</b>	dr. E.I. Motchenkova
<b>Docent(en)</b>	dr. S. Hochguertel
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

Upon completion of the course you:

1. have knowledge of main models and tools used in industrial organization for analysis of firm behavior (Knowledge);
2. understand the notion of market failure, the role of regulation and the role of antitrust (Knowledge);
3. can name and explain the determinants of the actions taken by firms and are able to explain the relationships between firms' actions and market outcomes (Knowledge);
4. are able to determine optimal firm and regulator behavior conditional on the type of market structure and nature of competition in the market and draw policy conclusions (Knowledge);
5. are able to apply mathematics, game theory, and micro-economic tools to analyze such market phenomena as collusion, abuse of dominance, entry and exit decisions, and regulation of natural monopoly (Academic Skills);

6. can discuss real-world experiences of abuse of dominant position, cartel agreements and predatory conduct (Bridging Theory and Practice);
7. are able to analyze real markets, identify the situations where competitive forces are weak, and discuss public policy measures intended to deal with diagnosed problems (Academic Skills; Research Skills).

### **Inhoud vak**

Many markets of interest are dominated by a few firms. Microsoft, Google, Apple, Intel, Airbus and Vodafone are examples of firms with significant market dominance. These firms not only choose their prices, but also the quality and the design of their products. They buy other firms and perhaps engage in illegal practices such as collusion and abuse of dominance. These choices have far-reaching effects on the markets in which they operate as well as throughout the economy. This course presents an approach –based on strategic decision making– for understanding the functioning of such markets. This course is designed to give students an overview of the theory of Industrial Organization, to provide students with insights in the organization of markets, and to give an overview of the main models and tools used for analysis of imperfectly competitive markets. In addition, this course studies public policy aimed at industries where the competitive forces fail to deliver efficient outcomes. In particular, the course focuses on sources of market failure such as economies of scale, barriers to entry, collusion, and abuse of dominant position. After introducing the basic notions of market failure and market structure the course concentrates on public policies to alleviate possible negative effects on consumer welfare. The course covers key antitrust issues such as abuse of dominance, collusion, entry deterrence and predation as well as regulation of natural monopoly. Some empirical applications will also be discussed.

### **Onderwijsvorm**

Lectures.  
Tutorials.  
Seminars.

### **Toetsvorm**

Assignments and presentations - group assessment.  
Written exam - individual assessment.

### **Literatuur**

Church, J. and Ware, R. (2000), "Industrial Organization: A Strategic Approach," McGraw Hill (see [https://works.bepress.com/jeffrey\\_church/23/](https://works.bepress.com/jeffrey_church/23/)).

Additional articles (to be specified).

### **Vereiste voorkennis**

Microeconomics I.

## **Information Retrieval**

<b>Vakcode</b>	X_400435 (400435)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen



<b>Coördinator</b>	dr. T. Kuhn MSc
<b>Examinator</b>	dr. T. Kuhn MSc
<b>Docent(en)</b>	dr. T. Kuhn MSc
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

### Doel vak

To learn how search engines and other information retrieval systems work, to understand the principles and methods, and to acquire some basic skills in programming important aspects of such systems

### Inhoud vak

Indexing, Boolean retrieval, query types, query execution, vector space model, web crawling, networks, link analysis, HITS, PageRank, classification, clustering, and more.

### Onderwijsvorm

Lectures and practical work

### Toetsvorm

Midterm exam, final exam, and assignments

### Literatuur

Introduction to Information Retrieval

### Vereiste voorkennis

Programming skills will be an advantage.

### Doelgroep

Dit vak is onderdeel van de minor Deep Programming, de minor Web data & Services.

## Information Systems in E-Business and Online Commerce

<b>Vakcode</b>	E_IBA3_ISEOC ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. B.J. van den Hooff
<b>Examinator</b>	prof. dr. B.J. van den Hooff
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Knowledge:

- Obtain in-depth insight into the important trends in Information and Communication Technologies (ICT) and how these trends impact organizations' E-business activities;
- Understand the role and value of ICT in the digital transformation of organizations;
- Understand how e-business relates to various degrees of digitalization by 1) optimizing industrial production logic, 2) integrating market

feedback in service delivery processes and 3) facilitating supplier, crowd or peer production networks;

- Have knowledge of relevant theories about the various aspects of ICT in relation to organizations' E-business activities;

#### Bridging Theory & Practice

- Be able to apply their understanding, insight and knowledge about ICT in relation to E-business to a practical case and the development of an E-business solution.

#### Inhoud vak

Recent technological developments in ICT are creating new possibilities for the interactions between organizations and various parties in their environment – business partners, customers, and others. At the same time, the use of these technologies also creates unprecedented amounts of data that organizations need to make sense of. In this course, we focus on these technologies, how they affect organizations' E-business and online commerce activities, and the demands this puts on the Information Systems (IS) used in the organization. This course does so by covering the following themes:

- Relevant developments in hardware, software and networking;
- The interaction between technology and organization;
- Enterprise Architecture and Enterprise Systems;
- How changing ICT architectures and developments in the area of big data, cloud computing, the Internet of Things, social media and mobile technologies affect organizations' E-business activities
- The changing nature of markets and supply chains related to these technological developments

We relate these themes to concrete issues related to managing ICTs for E-business. Examples of such issues are:

- How to optimally support both back- and front-office E-business processes with ICT;
- How to derive meaningful intelligence from the big data generated by interactions and transactions through applications in the area of business Intelligence and algorithmic decision making;
- How the increasing flexibility of IS (as a consequence of moving to the cloud, modular ICT architectures and the increasing use of mobile devices) influences the way these technologies meet the requirements of these processes;
- How to manage the security of data, processes and systems in light of these developments.

We will not only be discussing these themes and issues in lectures, but you will also apply your knowledge about them in the analysis of a practical case and the development of an E-business solution in relation to that case.

#### Onderwijsvorm

Lectures

Case tutorials

#### Toetsvorm

written exam - Individual assessment

case assignment - group assessment

#### Literatuur

Papers that will be made available via Blackboard

## Inleiding editiewetenschap 1

<b>Vakcode</b>	L_AABAALG060 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. P.H. Moser
<b>Examinator</b>	dr. P.H. Moser
<b>Docent(en)</b>	dr. P.H. Moser
<b>Lesmethode(n)</b>	Werkcollege
<b>Niveau</b>	200

### Doel vak

Deze cursus biedt inzicht in actuele ontwikkelingen in de editiewetenschap, het boekenbedrijf en leesgedrag. In het eerste deel krijg je antwoord op de volgende vragen: Welke invloed hebben nieuwe media op de productie, distributie en receptie van het boek? Wat verandert er in de uitgeverspraktijk met Printing on Demand en self-publishing? Als artikelen en boeken via Open Access toegankelijk worden, wie betaalt dan de rekening? Welke nieuwe mogelijkheden bieden digitale edities voor wetenschappers en voor het brede publiek, en welke eisen stellen ze aan makers en gebruikers? Zijn digitale ontwikkelingen een bedreiging of een kans voor boekhandels en bibliotheken? Gaan mensen anders lezen als ze een e-book gebruiken? Je leert de verschillende argumenten te wegen. Aan het eind van de cursus ben je in staat om weloverwogen deel te nemen aan het debat over de impact van digitalisering op boekenbedrijf en leesgedrag. Deze cursus vormt een theoretische voorbereiding op Inleiding Editiewetenschap 2, waar je zelf een editie zult maken.

### Inhoud vak

In Editiewetenschap 1 komen drie onderdelen aan bod: productie, distributie en consumptie van het boek. Voor ieder onderdeel wordt één week besteed aan het papieren boek, en één week aan het digitale boek. Op basis van wetenschappelijke achtergrondliteratuur (overwegend in het Engels), discussies in de media en praktijkvoorbeelden (bijv. bestaande edities) krijgen studenten inzicht in de problematiek en leren zij een eigen visie hierop te formuleren. Er is aandacht voor zowel de wetenschappelijke als de maatschappelijk-culturele aspecten van het vakgebied en de beroepspraktijk. In de tweede periode maken studenten zelf een editie van een literaire tekst, voortbouwend op de kennis die in periode 1 is opgedaan en de visie die zij daar ontwikkeld hebben.

### Onderwijsvorm

Werkcolleges (1 x 3 uur per week)

### Toetsvorm

De toetsing bestaat uit de volgende onderdelen: wekelijkse opdrachten (20%), take-home tentamen (40%), deelname aan slotdebat (40%).

### Literatuur

Het onderstaande is een voorlopige indicatie van het studiemateriaal. De definitieve literatuurlijst wordt minimaal twee weken voor de cursus via Blackboard bekend gemaakt. Het studiemateriaal omvat onder meer (delen van):

Adriaan van der Weel, 'The communications circuit revisited'. In:

Jaarboek voor Nederlandse Boekgeschiedenis 8 (2001), pp. 13-25; Lydia Vroegindewij, Handboek Redactie. Het organiseren van publicaties (Sdu Uitgevers 2005/2007); Robert Darnton, The Case for Books: Past, Present and Future (PublicAffairs 2009); The Unbound Book conference videos (2011): <http://e-boekenstad.nl/unbound/>; Adriaan van der Weel, Changing our textual minds. Towards a digital order of knowledge (Manchester University Press 2011); The Book: A Global History (ed. Michael F. Suarez, S.J. & H.R. Woudhuysen (Oxford University Press 2013) (hieruit: Brian Cummings, 'The Book as Symbol', Alexis Weldon, 'The Economics of Print', Paul Hoftijzer, 'The History of the Book in the Low Countries' en Eileen Gardiner and Ronald G. Musto, 'The Electronic Book'); Naomi Baron, 'Reading in print versus onscreen: better, worse, or about the same?', in: Tannen, D., Trester, A.M. (Eds.), Discourse 2.0: Language and New Media. Georgetown University Press 2013; Leopoldina Fortunati and Jane Vincent, 'Sociological insights on the comparison of writing/reading on paper with writing/reading digitally', in Telematics and Informatics 31 (2014), 39-51; dossier 'Reading in the Digital Age', in PMLA 128 (2014) 1; Jeffrey Snapp and Matthew Battles, The Library Beyond the Book (Harvard University Press 2014) (<http://jeffreysnapp.com/the-library-beyond-the-book/>); Marita Mathijsen, 'De openbaring: verschuivingen in de editiewetenschap door veranderingen in de publiceertwijzen', in Publiceren, wat is dat? Een antwoord in dertien opstellen (Amsterdam 2005); Annemarie Kets-Vree, Oude bronnen, nieuwe vragen: ontwikkelingen in de editiewetenschap (Amsterdam 2008); Marita Mathijsen, Naar de letter. Handboek editiewetenschap (Den Haag 2010); Peter L. Shillingsburg, From Gutenberg to Google. Electronic Representations of Literary Texts. Cambridge 2006; R. Modiano, L.F. Searle, P. Shillingsburg, Voice, text, hypertext. Emerging practices in textual studies (Seattle 2004); relevante kamerstukken (bijv. over leesbevordering, de vaste boekenprijs, de modernisering van het bibliotheekwezen), blogs, nieuwsberichten en websites (bijv. <http://alfalab.ehumanities.nl/textlab>).

### Vereiste voorkennis

Geen

### Doelgroep

Verplichte module voor studenten van de minor Aan de slag met literatuur; keuzemodule voor andere geïnteresseerde studenten.

### Overige informatie

Je mag één college missen. Wie twee colleges mist, moet een vervangende opdracht maken. Wie meer dan twee keer in deze periode afwezig is, kan de cursus niet afronden. Als je een college niet kunt bijwonen, laat dat dan van tevoren weten aan de docent.

## Inleiding editiewetenschap 2

<b>Vakcode</b>	L_AABAALG062 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. A. van Strien
<b>Examinator</b>	dr. A. van Strien
<b>Lesmethode(n)</b>	Werkcollege

<b>Niveau</b>	300
---------------	-----

### Doel vak

Voortbouwend op het theoretisch fundament dat in het eerste college Editiewetenschap in periode 1 is gelegd, worden in dit college vooral de praktische vaardigheden van de deelnemers ontwikkeld, zowel op het gebied van teksteditie in engere zin als op dat van de commentaar, in uitgaven voor verschillende doelgroepen.

### Inhoud vak

Dit college bouwt voort op het eerste college Inleiding Editiewetenschap in periode 1. In deze periode maken studenten zelf een editie van een literaire tekst, voortbouwend op de kennis die in periode 1 is opgedaan en de visie die zij daar ontwikkeld hebben. Nadere informatie hierover wordt in periode 1 bekend gemaakt

### Onderwijsvorm

Werkcolleges (1 x 3 uur per week)

### Toetsvorm

Werkstuk. De precieze eisen worden toegelicht in de studiehandleiding.

### Literatuur

Nader op te geven. Zie ook de literatuurlijst bij het eerste college Editiewetenschap, in periode 1.

### Vereiste voorkennis

De stof van het eerste college Inleiding Editiewetenschap in periode 1.

### Doelgroep

Verplichte module voor studenten van de minor Aan de slag met literatuur; keuzemodule voor andere geïnteresseerde studenten

### Overige informatie

Wie een of twee keer afwezig is (per periode), moet voor elk gemist college een vervangende opdracht maken. Wie meer dan twee keer per periode afwezig is, kan de cursus niet afronden.

## Inleiding in de Koran en Soenna

<b>Vakcode</b>	G_INLKOSO ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Godgeleerdheid
<b>Coördinator</b>	dr. Y. Ellethy
<b>Examinator</b>	dr. Y. Ellethy
<b>Docent(en)</b>	dr. Y. Ellethy
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	100

### Doel vak

De student kent op hoofdlijnen de ontstaansgeschiedenis, de indeling en de thematiek van de Koran en de Hadith. Dat wil zeggen dat de student:

- beknopt uitleg kan geven over visies op de geschiedenis van de Goddelijke openbaring in het algemeen en de openbaring van de Koran aan de profeet Mohammed in het bijzonder;
- de ontstaansgeschiedenis, de verzameling en de verspreiding van de Koranische tekst in hoofdlijnen kent;
- de westerse discussies en kritiek i.v.m de historische ontwikkeling van de tekst van de Koran kent en hierop kan reageren op een wetenschappelijke manier;
- de algemene kenmerken, inhoud, stijl en historische context van de Koran in hoofdlijnen kent;
- fundamentele kennis omtrent de terminologie van de Koranwetenschappen (en basiskennis van de Soenna en Hadith terminologie) heeft;
- de geschiedenis en de ontwikkeling van de Koran- en Hadithwetenschappen en de betreffende klassieke en moderne literatuur in grote lijnen kent;
- een werkstuk van enkele pagina's kan schrijven over de positie van de Koran en de Soenna binnen de Islam.

### **Inhoud vak**

In deze cursus (met meer focus op de Koranwetenschappen) worden gezaghebbende visies op de geschiedenis van de openbaring, de verzameling en de ontstaansgeschiedenis van de Korantekst, de betreffende kritiek, en de belangrijkste kernpunten en terminologie binnen de Koranwetenschappen ulm al-Qur'n behandeld. De student krijgt ook basiskennis van de positie van de Soenna binnen de Islam, het ontstaan en de ontwikkeling van de Hadith wetenschappen, terminologie en klassieke literatuur. In de module Hadith-wetenschappen zal meer nadruk worden gelegd op de Soenna en Hadithmethodologie.

### **Onderwijsvorm**

Hoor- en werkcolleges met schriftelijke opdrachten en tussentijdse papers. Er wordt aandacht gegeven aan de interactieve deelname van de studenten. Vragen worden aan het begin van het college besproken. In aansluiting op elk hoorcollege-onderdeel wordt een werkstuk gepresenteerd, in werkgroepen besproken en beoordeeld.

### **Toetsvorm**

Schriftelijk tentamen; schrijfofdracht' (20%) en college-opdrachten; actieve deelname tijdens de colleges.

### **Literatuur**

Verplichte literatuur:

Al-A'ami, M., *The History of the Quranic Text from Revelation to Compilation*, Leicester: UK Islamic Academy, 2003.

Leemhuis, F. "Koran"; "Soenna", in J. Waardenburg (ed.), *Islam: Norm, Ideaal en Werkelijkheid*. Houten: Fibula, 20005 , pp. 54-74; 75-79. (Blackboard).

Ljamai, A., *Inleiding tot de Studie van de Koran*, Zoetermeer: Meinema, 2005, hoofdstukken 1, 2, 3 en 4 t/m p. 71.

Watt, M. (et al.), *Bells Inleiding tot de Koran*, Utrecht: de Ploeg, 1986, hoofdstukken 1 en 2 t/m p. 39.

Nederlandse Koranvertaling.

Aanbevolen literatuur:

Ali, M., *Sirat Al-Nabi and the Orientalists*, Madinah: King Fahd complex for the Printing of the Quran, 1997 (Section IV: Receipt of Way).

Hamidullah, M., *An Introduction to the Conservation of Hadith in the*

Light of the Sahifah of Hammam ibn Munabbih, Kuala Lumpur: Islamic Book Trust, 2003.

Verdere literatuur wordt voor aanvang van het college bekend gemaakt via Blackboard.

### Overige informatie

Maakt onderdeel uit van Academische Vaardigheden.

Aanwezigheid 80%.

## Inleiding Inspanningsfysiologie

<b>Vakcode</b>	B_IF (900115)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. J.J. de Koning
<b>Examinator</b>	dr. J.J. de Koning
<b>Docent(en)</b>	dr. H.L. Gerrits, prof. dr. H.A.M. Daanen, drs. B.L. van Keeken, dr. J.J. de Koning
<b>Lesmethode(n)</b>	Hoorcollege, Practicum, Werkcollege, Bijeenkomst
<b>Niveau</b>	100

### Doel vak

Doel van dit vak is het verkrijgen van kennis van de bouw en werking van organen en orgaansystemen die een rol spelen bij het bewegen en de energiehuishouding.

Na afloop van de cursus kan de student de belangrijkste onderdelen van deze organen en orgaansystemen benoemen, de bouw en werking van deze onderdelen benoemen en de werkingsmechanismen beschrijven. Daarnaast kan de student deze kennis toepassen tijdens het meten van verschillende variabelen tijdens rust en inspanning. Ten slotte is de student in staat de uitkomsten van de metingen te interpreteren en te verwerken.

### Inhoud vak

Tijdens de colleges wordt, na een inleiding, de bouw en de werking van cellen en weefsels besproken, waarbij het accent zal liggen op spierweefsel. Daarna wordt ingegaan op de bouw en de werking van de voor het bewegen belangrijkste fysiologische systemen, zoals de bloedsomloop, de ademhaling, het zenuwstelsel en de hormoonhuishouding. Daarbij wordt zowel het functioneren tijdens rust als tijdens fysieke inspanning besproken.

Bij de practica wordt de theoretische kennis verder uitgebreid en toegepast bij het registreren van de stofwisseling in rust, het ECG en de bloeddruk, de verschillende longvolumina en ademhalingsparameters, de hartfrequentie tijdens fysieke inspanning, het lichamenlijk prestatievermogen, het dagelijkse energieverbruik en de dagelijkse voedselopname.

### Onderwijsvorm

De cursus bestaat uit hoorcolleges welke dienen ter verduidelijking van de leerstof. Deze colleges zijn niet verplicht. Daarnaast volgt iedere student een aantal practica. Deze practica zijn verplicht en worden in groepen van ca. 10-15 personen uitgevoerd. De practica dienen ter aanvulling op de collegestof en bieden bovendien de gelegenheid om de

kennis van de leerstof toe te passen en te verdiepen. Voorwaarde voor deelname aan het practicum is dat de student voor elke bijeenkomst steeds de betreffende stof in het boek en de cursushandleiding bestudeerd heeft. Na elke practicumbijeenkomst wordt het practicum door iedere student uitgewerkt aan de hand van een opdracht (inhoud en tijdstip van inleveren volgens de richtlijnen in de cursushandleiding). Het is niet toegestaan een practicumbijeenkomst bij te wonen indien de opdracht van de vorige bijeenkomst nog niet is ingeleverd.

40 uur/ 20 hoorcolleges  
12 uur/ 4 practica  
20 uur / uitwerking, opdracht practicum  
3 uur / tussentoets  
3 uur/ eindtoets  
90 uur / zelfstudie

### Toetsvorm

De tentamenstof bestaat uit de hoofdstukken van het boek ("Exercise Physiology: nutrition, energy, and human performance") zoals besproken tijdens de hoorcolleges, de diverse practica en de studiehandleiding.

Om deel te kunnen nemen aan het tentamen dient men aan de practicumverplichtingen te hebben voldaan. Deze verplichtingen zijn: alle practicumbijeenkomsten (actief) volgen, de bijbehorende opdrachten (voldoende) maken.

Het tentamen cijfer zal bestaan uit een gewogen gemiddelde van de tussen- en de eindtoets. De tussentoets wordt halverwege de cursus gegeven. Beide toetsen worden schriftelijk afgenomen en bestaan uit meerkeuze vragen.

### Literatuur

De verplichte literatuur bestaat uit:

- W.D. McArdle, F.I. Katch, V.L. Katch: Exercise Physiology: nutrition, energy, and human performance , 8th edition (2014). International edition.
- De cursushandleiding

### Intekenprocedure

De indeling van werkgroepen/(computer)practica/tutorgroepen etc. vindt plaats via Blackboard.

### Overige informatie

De practica zijn verplicht. Deelname aan het tentamen is alleen mogelijk als alle practicumbijeenkomsten zijn gevolgd en de betreffende opdrachten zijn ingeleverd. Bij het eventuele missen van een practicumbijeenkomst of opdracht met een geldige reden dient zo spoedig mogelijk contact opgenomen te worden met de practicumbegeleiders voor het plannen van een inhaalbijeenkomst.

## Inleiding Nederlandse religiegeschiedenis

<b>Vakcode</b>	L_GNBAALG002 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen



<b>Coördinator</b>	prof. dr. F.A. van Lieburg
<b>Examinator</b>	prof. dr. F.A. van Lieburg
<b>Docent(en)</b>	prof. dr. F.A. van Lieburg
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	100

### Doel vak

De student: • bestudeert een goed leesbaar en informatief handboek over 2000 jaar godsdienst in Nederland; • verwerft inzicht in de belangrijkste ontwikkelingen van de laatste eeuwen, die relevant zijn voor het begrijpen van de hedendaagse situatie van religie en samenleving in Nederland; • oefent zich door middel van opdrachten in het raadplegen van bronnen en de toepassing van methoden van religiehistorisch onderzoek.

### Inhoud vak

Sinds de Reformatie in de zestiende eeuw staat Nederland bekend als een calvinistisch land, hoewel er in feite sprake was van religieuze pluriformiteit. Verschillende opeenvolgende 'religieuze regimes' hadden uiteenlopende consequenties voor groepen en regio's. Vaak wordt onderscheid gemaakt in de publieke kerk (1570-1780), de protestantse natie (1780-1870), de verzuilde samenleving (1870-1960) en de huidige tijd van religieuze transformatie. Steeds waren er verschillende kerken en bewegingen, vooral sinds de grondwettelijke verankering van de godsdienstvrijheid. Dit college voorziet in basiskennis van de historische ontwikkeling en richt zich speciaal op de problemen van periodisering en differentiatie. Tevens wordt inzicht gegeven in de belangrijkste vakliteratuur en onderzoeksmethoden op dit gebied.

### Onderwijsvorm

Hoorcolleges, opdrachten, excursie.

### Toetsvorm

Wekelijkse opdrachten (25%) en schriftelijk tentamen (75%).

### Literatuur

Joris van Eijnatten en Fred van Lieburg, Nederlandse religiegeschiedenis (tweede herziene druk: Hilversum 2006).

### Doelgroep

Alle studenten (VU en daarbuiten, diverse studierichtingen). De module is een goede voorbereiding op het traject Religion & Society in de Master History.

### Overige informatie

Deze module maakt deel uit van de minor 'God in Nederland', maar kan ook afzonderlijk worden gevolgd.

## Inleiding Psychologie (UM)

<b>Vakcode</b>	P_UINLPSY ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.

<b>Coördinator</b>	dr. W. Donk
<b>Examinator</b>	dr. W. Donk
<b>Docent(en)</b>	dr. W. Donk
<b>Lesmethode(n)</b>	Hoorcollege, Computerpracticum
<b>Niveau</b>	100

### Doel vak

Een eerste kennismaking met het vakgebied psychologie.

### Inhoud vak

Het vak geeft een overzicht van de psychologie. Wat is de genetische en biologische basis van gedrag? Hoe zien we, leren we, onthouden we en denken we? Waarom gedragen we ons zoals we doen? Naast deze fundamentele vragen zullen ook de volgende onderwerpen aan bod komen: intelligentie, sociale psychologie, de ontwikkeling, persoonlijkheidsleer, psychopathologie en psychologische behandelmethoden.

### Onderwijsvorm

14 Hoorcolleges

### Toetsvorm

multiple choice

### Literatuur

-Gleitman, H., Gross, J., & Reisberg, D. (2011). Psychology (8th edition). Norton.

## Integratief modelleren

<b>Vakcode</b>	X_401001 (401001)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. T. Bosse
<b>Examinator</b>	dr. T. Bosse
<b>Docent(en)</b>	dr. T. Bosse
<b>Lesmethode(n)</b>	Hoorcollege, Practicum
<b>Niveau</b>	200

### Doel vak

Conceptueel modelleren van intelligente support-systemen in de menselijke leefomgeving.

### Inhoud vak

Veel hedendaagse software omvat meer en meer specifieke inhoud m.b.t. de context waarin het functioneert; bijvoorbeeld gedetailleerde informatie over omgeving, domein, situatie, en gebruiker(s). Dit geldt niet alleen voor de toestanden, maar ook voor de processen in die context. Om deze inhoud in te kunnen bouwen zijn vaak specifieke dynamische modellen nodig hiermee wordt de software meer context-aware. In deze cursus wordt hier aandacht aan besteed.

Integratief Modelleren 1 is een intensieve, 8-weekse bachelor cursus waarin de student zijn modelleringsvaardigheden verdiept en leert om verschillende aspecten van het modelleren op geïntegreerde wijze te gebruiken. De nadruk zal liggen op het gebruiken van domeinmodellen als basis voor modellen die binnen een systeem gebruikt kunnen worden om een realistisch probleem op te lossen. Het integratieve aspect komt ook tot uitdrukking in het combineren van kwalitatieve met kwantitatieve modelleertechnieken.

Tijdens de cursus komen voorbeelden uit allerlei verschillende domeinen aan de orde. Denk bijvoorbeeld aan onderwerpen uit de psychologie, zoals het modelleren van emoties en stemmingen of aandacht, onderwerpen uit de biomedische hoek, zoals het gebruiken van metingen aan het lichaam om eventuele dronkenschap te bepalen, of onderwerpen uit sociale en economische disciplines, zoals de verspreiding van informatie via sociale netwerken.

Tijdens de cursus zal de student, naast het uitvoeren van kleine opdrachten die gerelateerd zijn aan de hoorcolleges, zelf aan de slag gaan met een eigen gekozen probleem. Hiervoor zal hij modellen ontwikkelen en deze met behulp van software valideren en gebruiken voor simulaties. De studenten worden uitgedaagd de modellen te relateren aan relevante en mogelijke sensorische observaties, zoals bijvoorbeeld aan de orde komen in het vak Pervasive Computing.

#### **Onderwijsvorm**

Hoorcolleges en practicum

#### **Toetsvorm**

Practicumopdrachten

#### **Literatuur**

Dictaat

#### **Vereiste voorkennis**

Inleiding Modelleren & Simuleren

#### **Aanbevolen voorkennis**

Voorkennis: Inleiding Modelleren & Simuleren

#### **Doelgroep**

2LI, 3IMM

## Integrative Practical

<b>Vakcode</b>	E_EOR2_INTP ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.A. Estevez Fernandez
<b>Examinator</b>	dr. M.A. Estevez Fernandez
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

**Doel vak**

The student learns how to apply basic techniques from econometrics, operations research, and mathematical economics to problems taken from real life. For this, they first have to model the problem in mathematical terms, and afterwards decide what techniques are relevant for the specific problem. Next to this, the student also develops the ability to work in groups and learns how to write a report in a scientific style.

**Inhoud vak**

In this course, students work in groups on a practical case involving econometrics, mathematical economics, and operations research. The first week is intended to introduce the projects, the required literature, and the data if needed. In weeks 2 and 3, there will be meetings to report the progress. The presentations of the final reports will be held in week 4.

**Onderwijsvorm**

Working groups of at least two and at most four students. Weekly seminars.

**Toetsvorm**

Presentation and written report.

**Vereiste voorkennis**

For the students of the Bachelor Econometrics and Operations Research, there are entry requirements. The student must have followed intensively at least two out of three courses Econometrics I, Operations Research I, and Mathematical Economics I. One of the courses must have been passed, for a second course the student should have obtained at least a 5.

**Aanbevolen voorkennis**

The contents of the three courses Econometrics I, Operations Research I, Mathematical Economics I

## Intensionele Logica's en Onzekerheid

<b>Vakcode</b>	XBU_401108 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen

**Inhoud vak**

<http://studiegids.uva.nl/xmlpages/page/2015-2016/zoek-vak/vak/15111>

**Overige informatie**

Dit vak wordt aangeboden op de UvA. Voor meer informatie verwijzen we je naar: FNWI Education Service Centre, Science Park 904, servicedesk-esc-science@uva.nl, +31 (0)20 525 7100.

Inschrijving via <https://m.sis.uva.nl/vakaanmelden> is verplicht.

## Intercultural Communication

<b>Vakcode</b>	S_IC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. F.J. Companjen
<b>Examinator</b>	dr. F.J. Companjen
<b>Docent(en)</b>	dr. F.J. Companjen
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

To gain knowledge of theories of, and different perspectives on, intercultural communication between people in organizations in the context of globalization.

### Inhoud vak

Theories of intercultural communication will be discussed at three levels:

- the level of 'culture'; the pro's and con's of cultural dimensions, functional versus interpretative perspectives;
- the group level (identities, in and out-group communication)
- the individual level (imagery, power and negotiation).

### Onderwijsvorm

Lectures.

### Toetsvorm

Multiple Choice exam (60%), compulsory take-home questions (40%).

### Literatuur

A Handbook and a Reader will be made known through Blackboard.

### Doelgroep

Bachelor students in Communication Studies, Cultural Anthropology, students in the minor

Organizational Culture, and exchange students.

## International Financial Management

<b>Vakcode</b>	E_IBK3_IFM ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. K.L. Wolk
<b>Examinator</b>	dr. K.L. Wolk
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### **Doel vak**

The objective of the course is to acquaint students with the developments in international financial markets from a perspective of managerial decision making. The course is designed to provide future's financial managers with an understanding of the fundamental concepts and the tools necessary to be effective global managers. The aim is to provide students with an understanding of these concepts and techniques used in risk management. (Knowledge, Quantitative Skills) The students will develop skills in reading and understanding academic papers as well as critical thinking on economic events with a focus on the financial aspects of managerial decisions. (Research Skills, Bridging Theory and Practice) They are encouraged to improve analytical thinking abilities, to think beyond the boundaries of economics and finance theories. (Academic Skills, Broadening your Horizon)

### **Inhoud vak**

During the course, we will mainly discuss the structure of financial markets (foreign exchange, fixed income and equity markets) and explore the issues that are encountered by multinational enterprises, with an emphasis on risk management. When having completed this course, students will have a clear understanding how financial markets and institutions work and how the multinational firm interacts with the other market participants. In particular, students will:

- understand the development of the international monetary system and other financial institutions,
- be acquainted with the specifics of various financial markets (money, bond, equity)
- learn how to manage foreign exchange risk and interest risk in a multinational firm.

### **Onderwijsvorm**

- Lectures
- Tutorials

### **Toetsvorm**

Written exam – Individual assessment  
(Interim) Assignment(s) – Group assessment

### **Literatuur**

1. Eun & Resnick: International Finance, Global Edition (ISBN: 9780077161613)
2. Additional articles and/or cases (announced at the start of the course)

### **Aanbevolen voorkennis**

BK:  
2.2 Finance; 3.4 Financial Modelling and Derivatives; 2.5 Finance II

IBA:

2.2 Finance; 2.5 Corporate Finance in Emerging Economies; 3.4 Financial Modelling and Derivatives

## **International Relations and Global Governance**

<b>Vakcode</b>	S_IRGG ()
<b>Periode</b>	Periode 1

<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. N.A. de Graaff
<b>Examinator</b>	dr. N.A. de Graaff
<b>Docent(en)</b>	dr. N.A. de Graaff
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

- Acquiring knowledge of and insight into rival theories and approaches within the discipline of International Relations, their meta-theoretical foundations, and their application to contemporary international and global affairs;
- Acquiring knowledge of and insight into contemporary world politics based on a conceptual and theoretical toolbox as well as an overview of selected themes and issues, in particular regarding the relationship between interstate relations and the evolving system of global governance within the context of ongoing processes of globalization and transnationalization;
- Understanding how and why international and global politics affects national states and societies and thus acquire insight into the international and transnational dimension of the domestic and the European politics studied in other courses of the curriculum.

### Inhoud vak

This course offers a comprehensive overview of the discipline and subject of International Relations (IR) and its main concepts and theories and approaches. Throughout, the course will be guided by the question to which extent, and how, the current process of globalization is changing the nature and content of world politics, approaching this question from the various competing theoretical perspectives that IR has to offer. Traditionally, the object of study for IR has been the conflict between and co-operation of sovereign states. This model is, however, increasingly regarded as outdated inasmuch as more and more non-state actors such as multinationals, NGOs and transnational social movements appear to play a prominent role in world politics. In addition, we can also observe transnational forms of regulation through international organizations and emerging structures of what is called 'global governance'. The question has been raised whether in the face of these processes of globalization and transnationalisation, states have lost the sovereignty that used to be the basis of the international system. On the other hand, there are still many instances where state power is very visible. Indeed, recent geopolitical developments and events related to for instance the rise of China have also once more brought home the message that classical themes of interstate rivalry and international security have not lost their relevance in this new era. In this course the focus will be on seeking to understand these questions from various theoretical lenses. Students will learn how different perspectives highlight different structures and different actors and processes, and how a deeper knowledge of these theories and their main concepts allows for a deeper understanding of the richness of IR and its relation to the rest of the social sciences, and of the complexity of today's globalized world politics.

**Toetsvorm**

Written Exam (70%)

Assignments(30%)

**Literatuur**

J. Baylis, S. Smith, and P. Owens (eds) (2013). The Globalization of World Politics: An Introduction to International Relations. 6th Revised Edition. (Oxford: Oxford University Press).

**Internationale protestantse relaties**

<b>Vakcode</b>	L_GCBAALG005 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	prof. dr. G. Harinck
<b>Examinator</b>	prof. dr. G. Harinck
<b>Docent(en)</b>	prof. dr. G. Harinck
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

**Doel vak**

Leren onderzoek te doen in het archief en te werken met primaire bronnen.

**Inhoud vak**

In dit college gaan we in de archieven de sporen na van Geerhardus Vos (1862-1949), een in Nederland geboren theoloog die na een opleiding in de Verenigde Staten en Duitsland bijna aan de Vrije Universiteit belandt, maar toch weer naar de VS vertrekt en daar een belangrijke academische connectie wordt voor de VU.

**Onderwijsvorm**

Werkcollege, waarin de bronnen centraal staan, transcripties van de bronnen besproken worden en deze in hun context worden geplaatst.

**Toetsvorm**

De colleges worden afgesloten met een schriftelijke toets over de collegestof en de literatuur. De beoordeling omvat ook inhoud en de vorm van de presentatie van het eigen onderzoek in de werkgroep.

**Literatuur**

Diverse artikelen, worden op college opgegeven

**Doelgroep**

BA studenten Geesteswetenschappen en Theologie.

**Overige informatie**

Deze module maakt deel uit van de minor 'God in Nederland'.

**Internet Governance**

<b>Vakcode</b>	R_InternGov (200331)
----------------	----------------------



<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Rechtsgeleerdheid
<b>Coördinator</b>	mr. T.H.A. Wisman
<b>Examinator</b>	mr. T.H.A. Wisman
<b>Docent(en)</b>	prof. mr. A.R. Lodder
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### **Doel vak**

At the end of this course students:

- Know the specific characteristics of the Internet and the models of Internet governance;
- Understand the (legal) challenges that follow from these characteristics;
- Are able to describe and discuss how these challenges can be met by the different models of Internet governance;
- Know and are able to discuss in depth the following topics and their related case law: copyright, privacy and freedom of expression.

### **Inhoud vak**

The first half of this interdisciplinary course the focus is on the (legal) challenges and problems introduced by the internet. The course shall first identify the special characteristics of the internet in an effort to demonstrate and discuss the associated challenges. Besides identifying and subsequently discussing (legal) challenges, this course shall also treat the different models of internet governance, both legal and non--legal, which can be used in developing a critical mind towards possible solutions. Additionally, the course shall cover various perspectives on who could or should govern the Internet and how, but also what can or should actually be governed on the internet.

The second half of this course deals with specific legal subjects: freedom of expression, privacy and copyright. In this half we delve deeper in these various subjects, the specific challenges that arise in the context of the internet and the developments in case law. The models of internet governance will be used in this stage to critically reflect on these subjects and the respective challenges they bring.

### **Onderwijsvorm**

Student presentations, in class (group) exercises, discussion of the literature.

### **Toetsvorm**

The course is assessed by the following components:

- Assignments (5%)
- An essay (35%)
- An exam (60%)

## Literatuur

Material will be made available on Blackboard before the start of the course.

## Doelgroep

Apart from regular students, the course is also available for:

Students from other universities/faculties

Exchange students

Contractor (students who pay for one course)

## Internship Minor Applied Econometrics: A Big Data Experience for All

<b>Vakcode</b>	E_EOR3_IMAE ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	12.0
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L.F. Hoogerheide
<b>Niveau</b>	300

## Doel vak

### Academic Skills

- Ability to examine and understand problems from different perspectives;
- Ability to put forward well-founded, substantiated points of view, both in spoken and written format;
- Ability to apply acquired knowledge to other problems and in other contexts.

### Research Skills

- Ability to translate practically relevant problems into (academically) relevant research questions;
- Ability to design and execute a project using a systematic, analytical approach in a real business environment (of profit or not-for-profit organizations).

### Knowledge

- Have specialized, in-depth knowledge and insights about the minor theme;
- Ability to make connections between theories, models, and concepts of that specific minor theme/ discipline.

### Bridging Theory and Practice

- Ability to apply theoretical knowledge in a specific organizational context;
- Ability to formulate relevant recommendations for practice based on your knowledge acquired;
- Have a better understanding of what the expectations of the academic and professional field are in terms of knowledge and skills needed;
- Have awareness of the various career opportunities the field offers.

### Social Skills

- Have a better understanding of roles and needs of different types of stakeholders that you need to interact with as a professional;
- Ability to work well in a team and reflect on your own role in

the team.

#### Self-awareness

- Ability to reflect on your own responsibilities as well as others;
- Ability to reflect on your personal development;
- Ability receive and are able to deal with feedback from others.

#### **Inhoud vak**

Increasingly organizations and maybe even your future employer are looking for experience as well as academic credentials. The faculty recommends doing an internship, because it is an excellent way to apply the knowledge and (academic) skills which you acquired during your studies. Your most important learning goal as a student-intern is to familiarize yourself with professional and market-related skills in a real and new organizational environment. With the job market becoming increasingly competitive, gaining relevant experience will give you a good start into your professional career.

Companies offer a wide range of internships in various disciplines. What is crucial in obtaining approval for your internship and eventually obtaining your study credits, is that there is a clearly defined project that allows you to fulfill the learning objectives. Also, the project needs to allow for an individual assessment.

Finally, note that in order to obtain your internship credits, your internship has to be pre-approved by the minor coordinator and supervised by a faculty member that is assigned to you by either the minor coordinator.

#### **Onderwijsvorm**

On-site Internship

#### **Toetsvorm**

Written report – Individual assessment

#### **Literatuur**

Literature relevant to the theme of the minor and internship should be used to develop a solution to the problem that is investigated with the internship project.

#### **Aanbevolen voorkennis**

The courses in period 3.1 of the minor Applied Econometrics.

#### **Overige informatie**

IMPORTANT:

- Subscription to the internship through VUnet is not possible.
- **CONTACT THE MINOR COORDINATOR** as soon as you have an INITIAL proposal for the internship. Approval of the minor coordinator is essential in order to be able to do a minor internship.
- The general internship manual will be available through VUnet (including more details on a time plan and practical matters). **CAREFULLY READ THE MANUAL ON VUNET** (go to Services > Degree programme > Internship, or Serviceplein > Opleidingsprogramma > Stage). The manual will provide more insights in what is exactly expected in terms of your internship proposal, the concrete requirements, and the related time

line of activities.

- After completing the internship the subscription to the course as well as the registration of the result will be done by the back office.

## Internship Minor E-business and Online Commerce

<b>Vakcode</b>	E_IBA3_IMEOC ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	12.0
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. F.E.J.M. Derksen
<b>Examinator</b>	drs. F.E.J.M. Derksen
<b>Niveau</b>	300

### Doel vak

#### Academic Skills

- Ability to examine and understand problems from different perspectives;
- Ability to put forward well-founded, substantiated points of view, both in spoken and written format;
- Ability to apply acquired knowledge to other problems and in other contexts.

#### Research Skills

- Ability to translate practically relevant problems into (academically) relevant research questions;
- Ability to design and execute a project using a systematic, analytical approach in a real business environment (of profit or not-for-profit organizations).

#### Knowledge

- Have specialized, in-depth knowledge and insights about the minor theme;
- Ability to make connections between theories, models, and concepts of that specific minor theme/ discipline.

#### Bridging Theory and Practice

- Ability to apply theoretical knowledge in a specific organizational context;
- Ability to formulate relevant recommendations for practice based on your knowledge acquired;
- Have a better understanding of what the expectations of the academic and professional field are in terms of knowledge and skills needed;
- Have awareness of the various career opportunities the field offers.

#### Social Skills

- Have a better understanding of roles and needs of different types of stakeholders that you need to interact with as a professional;
- Ability to work well in a team and reflect on your own role in the team.

#### Self-awareness

- Ability to reflect on your own responsibilities as well as

others;

- Ability to reflect on your personal development;
- Ability receive and are able to deal with feedback from others.

### **Inhoud vak**

Increasingly organizations and maybe even your future employer are looking for experience as well as academic credentials. The faculty recommends doing an internship, because it is an excellent way to apply the knowledge and (academic) skills which you acquired during your studies. Your most important learning goal as a student-intern is to familiarize yourself with professional and market-related skills in a real and new organizational environment. With the job market becoming increasingly competitive, gaining relevant experience will give you a good start into your professional career.

Companies offer a wide range of internships in various disciplines. What is crucial in obtaining approval for your internship and eventually obtaining your study credits, is that there is a clearly defined project that allows you to fulfill the learning objectives. Also, the project needs to allow for an individual assessment.

Finally, note that in order to obtain your internship credits, your internship has to be pre-approved by the minor coordinator and supervised by a faculty member that is assigned to you by either the minor coordinator.

### **Onderwijsvorm**

On-site Internship

### **Toetsvorm**

Written report – Individual assessment

### **Literatuur**

Literature relevant to the theme of the minor and internship should be used to develop a solution to the problem that is investigated with the internship project.

### **Aanbevolen voorkennis**

Courses of the minor E-business and Online Commerce period 1

### **Doelgroep**

Students of the minor E-business and Online Commerce.

It is possible to replace two of the courses for an internship that will be supervised by one of the lecturers of the courses. The courses to be replaced are one out of the two courses “E-commerce Supply Chain Management” and “Information Systems in E-business and Online Commerce” (both in period 2) in combination with “Emerging Technologies for E-business and Online Commerce” (in period 3). Internships should be aligned with a topics addressed in the minor and should be initiated by students. Proposals for an internship need approval from the minor coordinator.

### **Overige informatie**

IMPORTANT:

- Subscription to the internship through VU.net is not possible.
- CONTACT THE MINOR COORDINATOR as soon as you have an INITIAL proposal

for the internship. Approval of the minor coordinator is essential in order to be able to do a minor internship.

- The general internship manual will be available through VUnet (including more details on a time plan and practical matters). CAREFULLY READ THE MANUAL ON VUNET (go to Services > Degree programme > Internship, or Serviceplein > Opleidingsprogramma > Stage). The manual will provide more insights in what is exactly expected in terms of your internship proposal, the concrete requirements, and the related time line of activities.

- After completing the internship the subscription to the course as well as the registration of the result will be done by the back office.

## Internship Minor Entrepreneurship

<b>Vakcode</b>	E_BK3_IMENT ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	12.0
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. W. Stam
<b>Examinator</b>	prof. dr. W. Stam
<b>Niveau</b>	300

### Doel vak

#### Academic Skills

- Ability to examine and understand problems from different perspectives;
- Ability to put forward well-founded, substantiated points of view, both in spoken and written format;
- Ability to apply acquired knowledge to other problems and in other contexts.

#### Research Skills

- Ability to translate practically relevant problems into (academically) relevant research questions;
- Ability to design and execute a project using a systematic, analytical approach in a real business environment (of profit or not-for-profit organizations).

#### Knowledge

- Have specialized, in-depth knowledge and insights about the minor theme;
- Ability to make connections between theories, models, and concepts of that specific minor theme/ discipline.

#### Bridging Theory and Practice

- Ability to apply theoretical knowledge in a specific organizational context;
- Ability to formulate relevant recommendations for practice based on your knowledge acquired;
- Have a better understanding of what the expectations of the academic and professional field are in terms of knowledge and skills needed;
- Have awareness of the various career opportunities the field offers.

#### Social Skills

- Have a better understanding of roles and needs of different types of stakeholders that you need to interact with as a professional;
- Ability to work well in a team and reflect on your own role in the team.

#### Self-awareness

- Ability to reflect on your own responsibilities as well as others;
- Ability to reflect on your personal development;
- Ability receive and are able to deal with feedback from others.

#### Inhoud vak

Increasingly organizations and maybe even your future employer are looking for experience as well as academic credentials. The faculty recommends doing an internship, because it is an excellent way to apply the knowledge and (academic) skills which you acquired during your studies. Your most important learning goal as a student-intern is to familiarize yourself with professional and market-related skills in a real and new organizational environment. With the job market becoming increasingly competitive, gaining relevant experience will give you a good start into your professional career.

Companies offer a wide range of internships in various disciplines. What is crucial in obtaining approval for your internship and eventually obtaining your study credits, is that there is a clearly defined project that allows you to fulfill the learning objectives. Also, the project needs to allow for an individual assessment.

It is possible to replace two of the courses in the Minor Entrepreneurship by an internship that will be supervised by one of the lecturers of the courses. An internship counts for 12 EC: it replaces one out of the two courses "Enterprising Behavior" and "Filming Entrepreneurship" (both in period 2) in combination with the course "New Venture Creation" (in period 3). Internships should be aligned with the topics of the minor and should be initiated by students.

Finally, note that in order to obtain your internship credits, your internship has to be pre-approved by the minor coordinator and supervised by a faculty member that is assigned to you by either the minor coordinator.

#### Onderwijsvorm

On-site Internship

#### Toetsvorm

Internship report - Individual assessment

#### Vereiste voorkennis

Courses related to the minor

#### Overige informatie

IMPORTANT:

- Subscription to the internship through VUnet is not possible.
- CONTACT THE MINOR COORDINATOR as soon as you have an INITIAL proposal for the internship. Approval of the minor coordinator is essential in order to be able to do a minor internship.
- The general internship manual will be available through VUnet

(including more details on a time plan and practical matters). CAREFULLY READ THE MANUAL ON VUNET (go to Services > Degree programme > Internship, or Serviceplein > Opleidingsprogramma > Stage). The manual will provide more insights in what is exactly expected in terms of your internship proposal, the concrete requirements, and the related time line of activities.

- After completing the internship the subscription to the course as well as the registration of the result will be done by the back office.

## Internship Minor Operations Analytics

<b>Vakcode</b>	E_EOR3_IMOA ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	12.0
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. L. Stougie
<b>Niveau</b>	300

### Doel vak

#### Academic Skills

- Ability to examine and understand problems from different perspectives;
- Ability to put forward well-founded, substantiated points of view, both in spoken and written format;
- Ability to apply acquired knowledge to other problems and in other contexts.

#### Research Skills

- Ability to translate practically relevant problems into (academically) relevant research questions;
- Ability to design and execute a project using a systematic, analytical approach in a real business environment (of profit or not-for-profit organizations).

#### Knowledge

- Have specialized, in-depth knowledge and insights about the minor theme;
- Ability to make connections between theories, models, and concepts of that specific minor theme/ discipline.

#### Bridging Theory and Practice

- Ability to apply theoretical knowledge in a specific organizational context;
- Ability to formulate relevant recommendations for practice based on your knowledge acquired;
- Have a better understanding of what the expectations of the academic and professional field are in terms of knowledge and skills needed;
- Have awareness of the various career opportunities the field offers.

#### Social Skills

- Have a better understanding of roles and needs of different types of stakeholders that you need to interact with as a professional;
- Ability to work well in a team and reflect on your own role in



the team.

#### Self-awareness

- Ability to reflect on your own responsibilities as well as others;
- Ability to reflect on your personal development;
- Ability receive and are able to deal with feedback from others.

#### **Inhoud vak**

Increasingly organizations and maybe even your future employer are looking for experience as well as academic credentials. The faculty recommends doing an internship, because it is an excellent way to apply the knowledge and (academic) skills which you acquired during your studies. Your most important learning goal as a student-intern is to familiarize yourself with professional and market-related skills in a real and new organizational environment. With the job market becoming increasingly competitive, gaining relevant experience will give you a good start into your professional career.

Companies offer a wide range of internships in various disciplines. What is crucial in obtaining approval for your internship and eventually obtaining your study credits, is that there is a clearly defined project that allows you to fulfill the learning objectives. Also, the project needs to allow for an individual assessment.

Finally, note that in order to obtain your internship credits, your internship has to be pre-approved by the minor coordinator and supervised by a faculty member that is assigned to you by either the minor coordinator.

#### **Onderwijsvorm**

On-site Internship

#### **Toetsvorm**

Written report – Individual assessment

#### **Literatuur**

Literature relevant to the theme of the minor and internship should be used to develop a solution to the problem that is investigated with the internship project.

#### **Vereiste voorkennis**

No other requirements than the ones for this minor

#### **Aanbevolen voorkennis**

Courses related to the minor

#### **Overige informatie**

IMPORTANT:

- Subscription to the internship through VUnet is not possible.
- CONTACT THE MINOR COORDINATOR as soon as you have an INITIAL proposal for the internship. Approval of the minor coordinator is essential in order to be able to do a minor internship.
- The general internship manual will be available through VUnet (including more details on a time plan and practical matters). CAREFULLY READ THE MANUAL ON VUNET (go to Services > Degree programme >

Internship, or Serviceplein > Opleidingsprogramma > Stage). The manual will provide more insights in what is exactly expected in terms of your internship proposal, the concrete requirements, and the related time line of activities.

- After completing the internship the subscription to the course as well as the registration of the result will be done by the back office.

## Internship Minor Sustainability and Innovation

<b>Vakcode</b>	E_IBA3_IMSI ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	12.0
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. ir. J.J. Berends
<b>Examinator</b>	prof. dr. ir. J.J. Berends
<b>Niveau</b>	300

### Doel vak

#### Academic Skills

- Ability to examine and understand problems from different perspectives;
- Ability to put forward well-founded, substantiated points of view, both in spoken and written format;
- Ability to apply acquired knowledge to other problems and in other contexts.

#### Research Skills

- Ability to translate practically relevant problems into (academically) relevant research questions;
- Ability to design and execute a project using a systematic, analytical approach in a real business environment (of profit or not-for-profit organizations).

#### Knowledge

- Have specialized, in-depth knowledge and insights about the minor theme;
- Ability to make connections between theories, models, and concepts of that specific minor theme/ discipline.

#### Bridging Theory and Practice

- Ability to apply theoretical knowledge in a specific organizational context;
- Ability to formulate relevant recommendations for practice based on your knowledge acquired;
- Have a better understanding of what the expectations of the academic and professional field are in terms of knowledge and skills needed;
- Have awareness of the various career opportunities the field offers.

#### Social Skills

- Have a better understanding of roles and needs of different types of stakeholders that you need to interact with as a professional;
- Ability to work well in a team and reflect on your own role in the team.

#### Self-awareness

- Ability to reflect on your own responsibilities as well as others;
- Ability to reflect on your personal development;
- Ability receive and are able to deal with feedback from others.

### **Inhoud vak**

Increasingly organizations and maybe even your future employer are looking for experience as well as academic credentials. The faculty recommends doing an internship, because it is an excellent way to apply the knowledge and (academic) skills which you acquired during your studies. Your most important learning goal as a student-intern is to familiarize yourself with professional and market-related skills in a real and new organizational environment. With the job market becoming increasingly competitive, gaining relevant experience will give you a good start into your professional career.

Companies offer a wide range of internships in various disciplines. What is crucial in obtaining approval for your internship and eventually obtaining your study credits, is that there is a clearly defined project that allows you to fulfill the learning objectives. Also, the project needs to allow for an individual assessment.

Finally, note that in order to obtain your internship credits, your internship has to be pre-approved by the minor coordinator and supervised by a faculty member that is assigned to you by either the minor coordinator.

### **Onderwijsvorm**

On-site Internship

### **Toetsvorm**

Written report – Individual assessment

### **Literatuur**

Literature relevant to the theme of the minor and internship should be used to develop a solution to the problem that is investigated with the internship project.

### **Aanbevolen voorkennis**

Courses related to the minor, specifically those of period 1.

### **Doelgroep**

Students of the Minor Sustainability & Innovation.

It is possible to replace two of the courses for an internship that will be supervised by one of the lecturers of the courses. The courses to be replaced are one out of the two courses “Organizing sustainable innovation” and “Sustainable supply chain management” (both in period 2) in combination with “Marketing sustainable innovations” (in period 3). Internships should be aligned with a topics addressed in the minor and should be initiated by students. Proposals for an internship need approval from the minor coordinator.

### **Overige informatie**

IMPORTANT:

- Subscription to the internship through VUnet is not possible.
- CONTACT THE MINOR COORDINATOR as soon as you have an INITIAL proposal for the internship. Approval of the minor coordinator is essential in

order to be able to do a minor internship.

- The general internship manual will be available through VUNet (including more details on a time plan and practical matters). CAREFULLY READ THE MANUAL ON VUNET (go to Services > Degree programme > Internship, or Serviceplein > Opleidingsprogramma > Stage). The manual will provide more insights in what is exactly expected in terms of your internship proposal, the concrete requirements, and the related time line of activities.

- After completing the internship the subscription to the course as well as the registration of the result will be done by the back office.

## Internship Minor Understanding and Influencing Decisions in Business and Society

<b>Vakcode</b>	E_BK3_IMUID ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	12.0
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. K.M.T. Millet
<b>Examinator</b>	dr. K.M.T. Millet
<b>Niveau</b>	300

### Doel vak

#### Academic Skills

- Ability to examine and understand problems from different perspectives;
- Ability to put forward well-founded, substantiated points of view, both in spoken and written format;
- Ability to apply acquired knowledge to other problems and in other contexts.

#### Research Skills

- Ability to translate practically relevant problems into (academically) relevant research questions;
- Ability to design and execute a project using a systematic, analytical approach in a real business environment (of profit or not-for-profit organizations).

#### Knowledge

- Have specialized, in-depth knowledge and insights about the minor theme;
- Ability to make connections between theories, models, and concepts of that specific minor theme/ discipline.

#### Bridging Theory and Practice

- Ability to apply theoretical knowledge in a specific organizational context;
- Ability to formulate relevant recommendations for practice based on your knowledge acquired;
- Have a better understanding of what the expectations of the academic and professional field are in terms of knowledge and skills needed;
- Have awareness of the various career opportunities the field offers.

#### Social Skills

- Have a better understanding of roles and needs of different types of

stakeholders that you need to interact with as a professional;

- Ability to work well in a team and reflect on your own role in the team.

#### Self-awareness

- Ability to reflect on your own responsibilities as well as others;
- Ability to reflect on your personal development;
- Ability to receive and are able to deal with feedback from others.

#### **Inhoud vak**

Increasingly organizations and maybe even your future employer are looking for experience as well as academic credentials. The faculty recommends doing an internship, because it is an excellent way to apply the knowledge and (academic) skills which you acquired during your studies. Your most important learning goal as a student-intern is to familiarize yourself with professional and market-related skills in a real and new organizational environment. With the job market becoming increasingly competitive, gaining relevant experience will give you a good start into your professional career.

Companies offer a wide range of internships in various disciplines. What is crucial in obtaining approval for your internship and eventually obtaining your study credits, is that there is a clearly defined project that allows you to fulfill the learning objectives. Also, the project needs to allow for an individual assessment.

Finally, note that in order to obtain your internship credits, your internship has to be pre-approved by the minor coordinator and supervised by a faculty member that is assigned to you by either the minor coordinator.

#### **Onderwijsvorm**

On-site Internship

#### **Toetsvorm**

Written report – Individual assessment

#### **Literatuur**

Literature relevant to the theme of the minor and internship should be used to develop a solution to the problem that is investigated with the internship project.

#### **Aanbevolen voorkennis**

Courses related to the minor

#### **Overige informatie**

IMPORTANT:

- Subscription to the internship through VUnet is not possible.
- CONTACT THE MINOR COORDINATOR as soon as you have an INITIAL proposal for the internship. Approval of the minor coordinator is essential in order to be able to do a minor internship.
- The general internship manual will be available through VUnet (including more details on a time plan and practical matters). CAREFULLY READ THE MANUAL ON VUNET (go to Services > Degree programme > Internship, or Serviceplein > Opleidingsprogramma > Stage). The manual will provide more insights in what is exactly expected in terms of your

internship proposal, the concrete requirements, and the related time line of activities.

- After completing the internship the subscription to the course as well as the registration of the result will be done by the back office.

## Introduction to Digital Innovation

<b>Vakcode</b>	E_MM_IDI ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. B.J. van den Hooff
<b>Examinator</b>	prof. dr. B.J. van den Hooff
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

### Doel vak

After successfully completing this course, students will:

- Understand the fundamental basics of hardware, software and networking that form the basis for digital innovation
- Be able to link past, current, and emerging technologies to digital innovation
- Be able to explain recent technological developments related to big data, social media, mobile, cloud computing and the Internet of Things
- Master the technological fundamentals of designing and developing innovative digital tools.

### Inhoud vak

Digital innovation relates to “a product, process, or business model that is perceived as new, requires some significant changes on the part of adopters, and is embodied in or enabled by IT” (Fichman et al., 2014). In this course, we focus on the technological developments that have given rise to digital innovation. Topics addressed include the fundamental developments in hardware, software and networking that form the basis for digital innovation. Issues like the increasing processing and storage capacity of digital devices, the miniaturization of technology, smarter software and the increasingly interconnected nature of networks will be discussed to provide a basis for understanding where digital innovation comes from – and where it might go to. Secondly, the course addresses recent technological developments in information technology like big data, social media, mobile devices, cloud computing and the Internet of Things. We analyze what possibilities for innovation arose from these developments, and how digital innovations have been developed and implemented in practice. Many practical examples of digital innovations will be discussed in the lectures. Next to the lectures in which these subjects are discussed, students will also put their knowledge about digital innovation into practice in developing an innovative digital tool that connects to the developments and issues discussed in the lectures.

### Onderwijsvorm

Lectures

Computer tutorials

**Toetsvorm**

Individual written exam  
Group project assignment

**Literatuur**

Various papers that will be made available through Blackboard

**Introduction to E-Business and Online Commerce**

<b>Vakcode</b>	E_IBA3_IEOC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. ir. J.W.M. Gerrits
<b>Examinator</b>	prof. dr. ir. J.W.M. Gerrits
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

Knowledge:

- Acquire an understanding of current E-business practices, developments and challenges.
- Have a basic understanding relevant E-business theory from the fields of information systems, economics, computer science, and logistics
- Ability to apply this theory to E-business (decision) challenges.
- Insight into the impact of E-business on business practices and the development of new business models.

**Inhoud vak**

Introduction

- Introduction to digital business and e-commerce
- Marketplace analysis for e-commerce
- Managing digital business infrastructure
- E-environment

Strategy and applications

- Digital business strategy
- Supply chain management
- E-procurement
- Digital marketing
- Customer relationship management

Implementation

- Change management
- Analysis and design
- Digital business service implementation and optimisation

**Onderwijsvorm**

Lectures  
Tutorials

**Toetsvorm**

Written Exam - Individual Assessment

**Literatuur**

Readings will be announced via Blackboard

**Vereiste voorkennis**

None

**Doelgroep**

All students wanting to know more about e-business and online e-commerce

## Introduction to Econometrics

<b>Vakcode</b>	E_EOR3_IE ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J. Schaumburg
<b>Examinator</b>	dr. J. Schaumburg
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

**Doel vak**

This course in the minor Applied Econometrics is targeted at non-econometrics students. By the end of this course students will have had an introduction to modern econometric techniques, that will enable them to conduct methodological or empirical analyses of their own. In particular, students will be familiar with both econometric theory and with real-world applications in macroeconomics, finance and business.

**Inhoud vak**

A review will be given of estimation and testing in the linear cross-sectional regression model. We will discuss the classical assumptions, and the consequences arising when these assumptions are not fulfilled.

Throughout the course, the focus will lie on developing an intuition for state-of-the-art econometric concepts. A balance will be struck between theoretical derivations and empirical applications. The textbook used (see below) is particularly well-suited for this purpose, as it is targeted at an audience of advanced undergraduate students in economics and business studies. Extensive use will be made of the statistical software Stata, both for in-class illustration and for hands-on exercises.

**Onderwijsvorm**

Interactive lectures and exercises in the computer lab.

**Toetsvorm**

Final written exam (85%) and practical assignment (15%)

**Literatuur**

Stock and Watson (2010), Introduction to Econometrics, 3rd edition.

**Aanbevolen voorkennis**

This course builds on the foundations laid either in the sequence of courses in `Kwantitatieve Methoden` (in the Economics programme) or in that of `Statistics` and `Business Mathematics` (in the Business



Administration programme). It assumes familiarity with probabilistic concepts such as discrete and continuous random variables, conditional expectations, hypothesis testing and central limit theorems, with the basics of matrix calculus, and with the essentials of regression analysis. This material, excluding matrix calculus, corresponds more or less to chapters 1-5 in Stock & Watson, and students are recommended to refresh their memory prior to the first lecture.

### Overige informatie

Participation in this course is a worthwhile preparation for the methodological elements of Master courses Advanced Microeconomics 4.2 and Empirical Finance 4.2 and is thus recommended to those intending to pursue a Master in Economics or Finance. The econometric techniques discussed will also be beneficial to everyone planning to write an empirical Bachelor's thesis.

## Introduction to Econometrics, Operations Research and Mathematical Economics

<b>Vakcode</b>	E_EOR1_IEOMF ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. C.S. Bos
<b>Examinator</b>	dr. C.S. Bos
<b>Docent(en)</b>	prof. dr. S.J. Koopman, dr. J.R. van den Brink, prof. dr. L. Stougie
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	100

### Doel vak

Introduceren van de beginselen van de richtingen binnen de opleiding

### Inhoud vak

Econometrie:

De econometrie probeert op zinnige wijze relaties tussen datapunten te beschrijven tot een model, waaruit voorspellingen kunnen worden gemaakt. Deze inleiding introduceert enkele filters die gebruikt kunnen worden voor een eerste voorspelling, en vervolgt met de beginselen van de regressie, toegepast op echte data.

Besliskunde:

Een aantal problemen uit de netwerk optimalisatie worden behandeld, waaronder het kortste pad probleem, het minimum opspannende boom probleem en het maximale stroom probleem. Voor deze problemen wordt de wiskundige structuur ontrafeld en oplossingsmethoden of algoritmen bestudeerd. Een begin wordt gemaakt met het theoretisch bestuderen van de rekentijd van algoritmen met een glimp op complexiteitstheorie.

Wiskundige economie:

Binnen de economische wetenschap wordt veelvuldig gebruik gemaakt van wiskundige modellen. Veel van deze modellen hebben tot doel om het keuzegedrag van economische agenten in hun economische omgeving te verklaren. In deze inleiding zetten we de eerste stappen in het wiskundig modelleren van economische beslissingsprocessen, waarbij we

zowel kijken naar het individueel keuzegedrag van agenten in strategische beslissingssituaties als naar cooperatieve beslissingssituaties.

### Onderwijsvorm

Hoorcollege 3x2u per week

### Toetsvorm

Tentamen.

Om aan het tentamen van dit vak mee te mogen doen, dient men tenminste 70% van de sessies van het Colloquium I gevolgd te hebben.

Tevens wordt het tentamencijfer pas officieel vastgesteld nadat de Taaltoets (verplicht voor eerstejaars VU studenten) met goed gevolg is afgelegd.

### Literatuur

Slides

### Aanbevolen voorkennis

Probability Theory, Linear Algebra, Analysis I

## Introduction to Programming (Java)

<b>Vakcode</b>	X_400634 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	ir. M.P.H. Huntjens
<b>Examinator</b>	ir. M.P.H. Huntjens
<b>Docent(en)</b>	ir. M.P.H. Huntjens
<b>Lesmethode(n)</b>	Hoorcollege, Practicum

### Doel vak

This course teaches how to use computers to solve problems with algorithms and structured programming.

### Inhoud vak

primitive types, declaration, expression, assignment statement, iterations, methods, I/O using PrintStream and Scanner, array, class, object, standard classes String and Math, design of programs, matrix, using several self made objects in a program, recursion and using a graphical interface through a pre-programmed package.

### Onderwijsvorm

Classes and practical

### Toetsvorm

grade for practical work + grade for examination. Both have to be passed.

If practical and examination are passed with grades P en E, the final grade F is calculated with the formula  $F = \max(E, (2E+P)/3)$

### Literatuur

**Doelgroep**  
1BA, 1EOR

**Intekenprocedure**

For this course, new first year students are enrolled by the faculty. If you have been enrolled in this course before or want to take this course as a "second year's student", please enroll only for the module and the exam via VU.net. The faculty will enroll you for the teaching methods.

**Introduction to Time Series**

<b>Vakcode</b>	E_EOR3_ITS ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. F. Blasques Albergaria Amaral
<b>Examinator</b>	dr. F. Blasques Albergaria Amaral
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

**Doel vak**

This course introduced students to dynamic econometric models and time series analysis.

**Inhoud vak**

This course covers both theoretical and practical aspects of time series econometrics including the analysis of stationary and non-stationary stochastic processes in economics and finance.

The students are introduced to autoregressive moving average (ARMA) models, autoregressive distributed lag (ADL) models, and error correction models (ECM). Furthermore, the course provides both theoretical and practical insight into parameter estimation in time-series and the use of these models for forecasting, testing for Granger causality, and performing policy analysis using impulse response functions.

Finally, the students are introduced to the fundamental problem of spurious regression in time-series analysis. We find a solution to this problem by taking a journey into the theory and practice behind unit-root test, cointegration tests and error-correction representation theorems.

**Onderwijsvorm**

Lectures and practical classes. During practical classes time will be made for discussing exercises.

**Toetsvorm**

Final exam and group assignment – Individual assessment.

**Literatuur**

Lecture notes and other material provided by teacher.

J. Stock and M. Watson, 2011, Introduction to Econometrics. Prentice Hall.

P. Brockwell and R. Davis, 2010, Introduction to Time Series and Forecasting. Springer.

C. Brooks, 2014, Introductory Econometrics for Finance. Cambridge University Press.

#### **Vereiste voorkennis**

None.

#### **Aanbevolen voorkennis**

This course builds on the foundations laid either in the sequence of courses in `Kwantitatieve Methoden` (in the Economics programme) or in that of `Statistics` and `Business Mathematics` (in the Business Administration programme). It assumes some familiarity with probability and statistics. This material corresponds more or less to Part I (Chapters 1-3) in Stock & Watson, and students are recommended to refresh their memory on this prior to the first lecture.

#### **Doelgroep**

This course in the minor Applied Econometrics is targeted at both econometrics and non-econometrics students.

## **Investments**

<b>Vakcode</b>	E_EBE3_INVES ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. T.C. Dyakov
<b>Examinator</b>	dr. T.C. Dyakov
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

#### **Doel vak**

This course offers a comprehensive introduction to the world of investments. The course is structured in four broad parts, covering fundamental areas of investments: Portfolio theory and asset pricing; Empirical evidence on security returns and portfolio management; Fixed-income securities and; Options, futures and other derivatives. All four parts of the course are closely knitted to the learning goals of Quantitative skills, Academic skills, and Bridging theory and practice.

By the end of the course students should be able to:

- compute fundamental risk-management techniques: Value-at-Risk and Expected Shortfall;
- apply the Markowitz portfolio selection model and construct an efficient frontier of risky assets;
- compare the Capital Asset Pricing Model (CAPM) against the Arbitrage

- Pricing Theory. Test the predictions of the CAPM;
- price fixed income securities and construct the Term Structure of Interest Rate;
  - solve portfolio immunization problems by matching the duration of assets and liabilities;
  - build a binomial tree and apply the Black-Scholes formula.

### Inhoud vak

Investment decisions take a prominent role in everyday life. We can think of investment decisions taken by institutional investors (banks, insurance companies, pension funds, mutual funds), but also of financial decisions taken by individual households (additional pension savings, savings for children education, buying a house, etc.). Investment theory is also strongly linked to risk management. The importance of sound decision making in this field has been underlined by recent experiences on financial markets, law suits involving complex financial products for retail clients, etc. The key objective of this course is to provide understanding of the pricing of different asset classes and insights into the principles of investment analysis. A framework is developed that allows one to address a variety of (at first sight) completely different investment problems in a unified way.

### Onderwijsvorm

Lectures.  
Tutorials.

### Toetsvorm

Written exam – individual assessment.  
(Interim) Assignment(s) – group assessment.

### Literatuur

Zvi Bodie, Alex Kane and Alan J. Marcus: Investments and Portfolio Management, McGraw Hill (latest international edition).  
Additional readings might be announced on Blackboard.

### Vereiste voorkennis

Finance I or equivalent.

### Aanbevolen voorkennis

Finance II or equivalent.  
The course relies on prior knowledge on linear algebra and statistics (Quantitative Research Methods I and II). Even though it offers a very brief introduction to the concepts and tools in this area that we will primarily use, students are strongly advised to review this material from relevant courses in the first two years of studies.

### Overige informatie

This course provides the knowledge basis for students aiming at an MSc in Finance and a career in the financial sector.

## Islam en Europese cultuur

<b>Vakcode</b>	G_ISLEURCUL ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands

<b>Faculteit</b>	Faculteit der Godgeleerdheid
<b>Coördinator</b>	dr. M. Aulad Abdellah
<b>Examinator</b>	dr. M. Aulad Abdellah
<b>Docent(en)</b>	dr. M. Aulad Abdellah
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

De student:

- kent de belangrijkste verschillen en overeenkomsten tussen islamitische en westerse jurisprudentie;
- kan de wederzijdse beeldvorming van westerse en islamitische zijde omtrent de positie van de islam in het Westen onderscheiden en kritisch evalueren en zelf genuanceerde standpunten uitwerken waarbij rekening wordt gehouden met beide perspectieven;
- is in staat bepaalde religieuze vraagstukken in de westerse context op een kritische en wetenschappelijke manier te benaderen;
- is in staat jurisprudentie (Fiqh) toe te passen in de westerse samenleving inzake bepaalde kwesties.

### Inhoud vak

De module focust op de islamitische visies vanuit de fiqh ten aanzien van kwesties waaromtrent moslims in het Westen een positie proberen te bepalen. Het gaat over kwesties als Islamitische ethiek en jurisprudentie, de geschiedenis van de islam en moslims in Europa ; het recht van minderheden (fiqh al-aqalliyat); Islam als minderheidsgodsdienst: confrontatie en consensus; de westerse beeldvorming over de Islam; afvalligheid binnen de Islam; de scheiding tussen religie en staat; het ritueel slachten; de jihâd, de godsdienstvrijheid, Gelijkheid tussen man en vrouw in de islam, de relatie tussen moslims en niet moslims in het westen. De voorbeeldfunctie van Al Andalusië (Spanje) als ontmoetingsplaats voor verschillende religies en culturen in het Westen komt eveneens aan de orde.

### Onderwijsvorm

Hoor- en werkcollege.

### Toetsvorm

schrijfpodracht (20%), schriftelijk tentamen (80%)

### Literatuur

Saeed, A., en Saeed H., Freedom of Religion: Apostacy in Islam. Hampshire: Ashgate Publishing LTD., 2004;  
 Koningsveld, P.S. van, Sprekende over de Islam en de moderne tijd. Utrecht: Prometheus, 1993, 9-33;  
 Fetzer, Joel S., en Soper, J. Christopher, Muslims and the State in Britain, France and Germany. Cambridge: Cambridge University Press, 2005;  
 Roy, Oliver, De islam en de scheiding van kerk en staat. Amsterdam: Van Gennep, 2006, 7-71;  
 Rutger De Reu, Jihadistische rekrutering in Europa. Gent: Universiteit Gent, 2004-2005, 14-126;  
 Marzouk Aulad Abdellah, Burgers en barbaren: Over oorlog tussen recht en macht, in: Rechtvaardige oorlog in de Klassieke islam, Amsterdam: Boom, 2007, 307-316.

Powerpoints.

### Aanbevolen voorkennis

Usul al-Fiqh (G\_USULUFIQH) en Arabisch.

### Overige informatie

Als een derdejaars vak is deze module een vervolg op fiqh (islamitische ethiek) modules en behandelt usul al-fiqh kwesties van hoog niveau.

Aanwezigheid 80%.

## Islamitische ethiek

<b>Vakcode</b>	G_ISLAMET ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Godgeleerdheid
<b>Coördinator</b>	dr. M. Aulad Abdellah
<b>Examinator</b>	dr. M. Aulad Abdellah
<b>Docent(en)</b>	dr. M. Aulad Abdellah
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Inhoud vak

De module focust op de volgende onderwerpen onder andere :

Usul al fiqh; een historisch overzicht van de Usul Al-fiqh;  
onderzoeksmethoden van Usul Al-Fiq; definitie van Usul Al-Fiqh;  
technische begrippen van deskundigen op het gebied van Usul al-Fiqh de vijf categorieën van Al-ahkam al-taklifia ; Categorieën van Waadjib plichten; de categorieën van al-Hukm al-Wad'io; omschrijving van de Koran en zijn categorieën; de plaats van de Koran binnen de Usul Al-Fiqh;(consensus) al-Idjma; de redenering bij al-qiyas (analogie); concept van almaslahatul Mursalah (algemeen belang); urf (het gewoonterecht ); Sadd Adzaraai (blokkeren van de middelen ); en de Al-istihsan (voorkeur).

### Onderwijsvorm

Hoor- en werkcollege

### Toetsvorm

Schriftelijk tentamen:(65 %); Schrijf opdracht (20 %); Participatie tijdens colleges:(15 %)

### Literatuur

Verplichte literatuur

- Mohammad Hasim Kamali, Principles Islamic Jurisprudence, The Islamic Texts Society, 1989.

- Michael Mumisa, Islamic Law Theory Interpretation (first edition), Omana publications, 2002 ( pp.1-141).

- Dr. Mohammed Wahba Zohayli, Usul Al-Fiqh Al-Islami, Daar Al-Fikr, Beirut 1989 ( pp.46-60, pp.67-87 en pp.72-107).

-Marzouk Aulad Abdellah PowerPoint

Aanvullende literatuur

- T.H.W. Juyanboll, Handleiding tot de kennis van de Mohammedaanse wet volgens de leer der Sjafi'itische school, Leiden 1930 (pp. 16-51).

- Ruud Peter, Inleiding tot Usul Al-Fiqh en rechtsscholen: Eigen karakter van de sjarie'a in Islam: Norm Ideaal en Werkelijkheid, plaats: geen, 1984 (pp. 167-176).
- J.J.G. Jansen, Nieuwe inleiding tot de Islam, uitgeverij Coutinho, 1987 (pp. 27-31).

### Vereiste voorkennis

Arabisch VI

### Aanbevolen voorkennis

Islamitische ethiek en Arabisch VI

## Islamitische theologie/Kalam

<b>Vakcode</b>	G_ISLMTHKAL (100037)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Godgeleerdheid
<b>Coördinator</b>	dr. M. Ajouaou
<b>Examinator</b>	dr. M. Ajouaou
<b>Docent(en)</b>	dr. M. Ajouaou
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

- De student kan het ontstaan, de ontwikkeling en de fundamenteën van de pre-Kalam scholen (al-Murji'a, Khawāridj, Qadarriya en Djabriyya) en de Kalam (Mu'tazilla, Asj'ariyya en Maturdiyya) beschrijven;
- Kan de methodologische en theoretische wortels van de Kalam in de islamitische traditie identificeren;
- Kan de islamitische religiositeit vanuit het oogpunt van de mutakallimun (oprichters van Kalam scholen) doorgronden;
- Maakt kennis met belangrijke vraagstukken van de 'ilm al-Kalam zoals: wat is de meetlat van het geloof en ongelooft? Wat is de positie van de ongelovige? Hoe te debatteren met andersgelovigen binnen en buiten de islam? Hoe vrij is de mens? Wie heeft het primaat: rede of de schrift en waarom? Enzovoort.
- Is in staat het huidige religieuze islamitische discours aan de hand van de discussie van 'ilm al-Kalam in grote lijnen te analyseren;
- Is in staat om eigen standpunten inzake de behandelde materie te formuleren, onderbouwen en verdedigen in mondelinge en schriftelijke presentaties.

### Inhoud vak

- Waarom is 'ilm al-Kalam ontstaan en wat betekende het toen en nu voor het islamitische geloof en het islamitische denken?
- Welke plaats neemt 'ilm al-Kalam in het islamitische denken en hoe verhoudt het zich tot de klassieke islamitische wetenschappen zoals



Koran- en Hadith wetenschappen en de rationele disciplines zoals islamitische filosofie?

•Wat was het antwoord van 'ilm al-Kalam op religieuze vraagstukken zoals God en goddelijke eigenschappen, profeetschap, hiernamaals, de predinatieleer, vrije wil, majeure zonden en de meetlat van geloof en ongelooft?

•Wat is goed en kwaad (islamitisch ethiek) volgens mutakallimun en wat kunnen moslims hedendaags leren van hun visies?

De module tracht antwoord te geven op deze vragen. Centraal staat hierbij de betekenis van 'ilm al-Kalam voor de hedendaagse islamitische theologie en religiositeit.

### Onderwijsvorm

Hoor- en werkcollege met schriftelijke opdrachten, praktijkopdrachten in het veld en presentaties (20%), schrijfofdracht (20%) en afsluitend schriftelijke toets (60%).

### Toetsvorm

Active participatie middels collegevoorbereiding, het maken van opdrachten (waaronder schrijfofdracht 20%), het geven van presentaties en het deelnemen aan discussie; afsluitend schriftelijk tentamen over de stof.

### Literatuur

Verplicht:

Ajouaou, M. Wie is moslim? Geloof en secularisatie onder westerse moslims. Zoetermeer: Meinema, 2014.

Reeth, Jan M.F. van, Kalâm. Arabisch denken over God en wereld.

Antwerpen / Apeldoorn: Garant, 2011.

Winter, Tim (ed.) Classical Islamic Theology. Cambridge: Cambridge University Press, 2008.

Additioneel:

Wolfson, H. Austryn, The Philosophy of the Kalam. Cambridge, MA / London: Harvard University Press, 1976.

### Vereiste voorkennis

Geen

### Doelgroep

Studenten traject Islam, Islam studies, Theologie en religiestudies en studenten die geïnteresseerd zijn in het islamitisch denken, islamitische ethiek, islamitische religiositeit en de leefwereld van moslims.

### Overige informatie

Aanwezigheid 80%.

## Joodse religieuze culturen

<b>Vakcode</b>	L_GCBAALG006 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen

<b>Coördinator</b>	dr. B.T. Wallet
<b>Examinator</b>	dr. B.T. Wallet
<b>Docent(en)</b>	dr. B.T. Wallet
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

De student: • verwerft inzicht in de voornaamste ontwikkelingen in de geschiedenis van 400 jaar joden in Nederland, met daarbij oog voor de verwevenheid met de Nederlandse samenleving én met transnationale joodse netwerken; • verwerft kennis over de inhoudelijke en rituele transformatie van het jodendom in de Nederlandse context; • is in staat op een specifiek onderwerp in de Nederlands-joodse religiegeschiedenis zijn/haar kennis te verdiepen door middel van historisch onderzoek.

### Inhoud vak

Sinds de zestiende eeuw kent Nederland joodse gemeenschappen, die vaak als spreekwoordelijke minderheid de lakmoestest vormden voor de tolerantie van de dominante cultuur. Sefardische en Asjkenazische joden ontwikkelden beide binnen de parameters van de politieke mogelijkheden hun eigen religieuze cultuur. Daarbij is er van de zestiende tot in de eenentwintigste eeuw voortdurend sprake van interactie met bredere culturele ontwikkelingen en transnationale netwerken. In deze module wordt een grand narrative geboden van de vroegmoderne en moderne Nederlands-joodse geschiedenis, met daarbij aandacht voor religieuze culturen, intellectuele ontwikkelingen en sociale bewegingen. Naast de hoorcolleges zijn er werkcolleges, waarbij de studenten het thema 'het rabbinaat in het Nederlandse jodendom' verder uitdiepen. Daarover wordt ook zelfstandig een eindpaper geschreven.

### Onderwijsvorm

Hoorcolleges, werkcolleges en zelfstandig onderzoek.

### Toetsvorm

Mondelinge presentatie en eindpaper.

### Literatuur

Tirtsah Levie Bernfeld en Bart Wallet, Canon van Joods Nederland (te verschijnen). Artikelen via Blackboard.

### Aanbevolen voorkennis

Voorkennis is niet vereist. Kennis van Hebreeuws en Jiddisch strekt niettemin tot aanbeveling.

### Doelgroep

Studenten met belangstelling voor geschiedenis, jodendom, religie-, integratie- en migratievraagstukken.

### Overige informatie

Deze module maakt deel uit van de minor 'God in Nederland'.

## Judgment and Decision Making

<b>Vakcode</b>	E_BK3_JDM ()
<b>Periode</b>	Periode 1

<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. K.M.T. Millet
<b>Examinator</b>	dr. K.M.T. Millet
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege, Werkcollege
<b>Niveau</b>	300

### **Doel vak**

Academic Skills: You will analyze and reflect on existing literature on judgment and decision making and apply this knowledge to examples and problems from business and public policy.

Knowledge: You will obtain a deeper understanding of theories, methodology (experiments and field studies) and findings on heuristics and biases in the area of judgment and decision making, from psychology and behavioral economics.

Bridging Theory and Practice: You will make use of theoretical knowledge and concepts such as biases, decision processes, risk perception to understand and analyze human decision making in practical settings. We will focus on business and policy decisions, but also draw from health and other settings.

### **Inhoud vak**

This course provides an overview of scientific research on judgment & decision making, where psychology and economics collide and collaborate to understand human behavior. It provides you with the basic knowledge of theories, concepts and methods that is necessary to understand how decisions are made. The course is inspired by the groundbreaking, nobel-prize winning work of Kahneman and Tversky as well as other seminal work and research programmes of other leading thinkers in the field (and society). One of the main topics of the course will be the question of how and when humans deviate from rational thinking. This is captured by a well-documented array of heuristics and biases, that help us to make reasonable and accurate decisions in some areas, but may crucially misguide us in others. We will discuss research that documents several well-known biases, such as anchoring effects, hindsight bias, endowment effects and loss/gain framing. We will also study how decisions and behaviors are influenced by our physical and social environment. Topics covered include social decision making, (dis)honesty and forecasting among others.

### **Onderwijsvorm**

Lectures and tutorials

### **Toetsvorm**

written exam – individual assessment  
(interim) assignment – group assessment

### **Literatuur**

tba

### **Vereiste voorkennis**

none

### **Aanbevolen voorkennis**

none

## Kansrekening: Markov-ketens

<b>Vakcode</b>	XBU_418085 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

### Inhoud vak

<http://studiegids.uva.nl/xmlpages/page/2016-2017/zoek-vak/vak/29720>

### Doelgroep

3W

### Overige informatie

Dit vak wordt aangeboden op de UvA. Voor meer informatie verwijzen we je naar: FNWI Education Service Centre, Science Park 904, servicedesk-esc-science@uva.nl, +31 (0)20 525 7100.

Inschrijving via <https://m.sis.uva.nl/vakaanmelden> is verplicht.

## Knowledge Management

<b>Vakcode</b>	E_IBK3_KM ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.H. Rezazade Mehrizi
<b>Examinator</b>	dr. M.H. Rezazade Mehrizi
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

The course enhances your knowledge and skills with regards to knowledge management theories and practices. More specifically, the course aims at the following learning objectives:

Academic skills:

Learn and critically analyze knowledge management theories and gain the experience of theorizing via abstracting the research findings and discussing them against the existing literature.

Research Skills:

Gain experience in conducting empirical research, by participating in small research projects, within the field of knowledge management.

Knowledge:

Have an in-depth understanding of the importance and implications of knowledge as the main organizational resource for knowledge-intensive organizations.

Bridging theory and practice:

Learn how to bridge theory and practice by formulating a research question, collecting and analyzing data and drawing conclusions for theory and practice.

Social skills:

Improve your social skills by working in teams and interacting with organizations.

Broadening your horizon:

Broaden your horizon by learning various theories related to knowledge management and acquire a critical, integrated, perspective on KM.

Self-awareness:

Enhance your self-awareness of your research skills and domain knowledge via team discussions.

### **Inhoud vak**

Around 80% of the market value of leading companies such as Google, Amazon, Apple come from their intangible assets in general, and their knowledge in particular. Can you imagine that a bank or a small software company works without effective use of the expertise that their employees have? That's why companies like Shell not only spend massive efforts to manage their knowledge, but also gain hundred millions of Euros each year by effective management of their knowledge. In other words, creating, sharing, and utilizing knowledge is the core fabric of successful organizations.

Think, for example, of a multi-national company like Heineken: how can Heineken make sure that benefits from what its employees know and the expertise developed in one part of the company can be shared with and used by members in other parts? How can Nike make use of all the creative ideas that are developed within various online communities, such as Niketalk.com and competitors' online communities? Such questions are on the minds of many managers today. The course helps you understand the inter-disciplinary nature of knowledge management (KM) and its importance for organizations to improve their performance and innovation. The course also provides you with practical insights that you can rely on when you serve as a manager, consultant, and entrepreneur for dealing with KM challenges.

As a result, when you work for organizations, knowledge management is part of your day-to-day activities, for which the course provides you with ample insights. Furthermore, new trends such as crowdsourcing, flexible work, and new ways of working have heightened the importance of KM, yet adding further challenges to it. For instance, new knowledge sharing mechanisms are needed when organizations run innovation projects via crowdsourcing of innovation challenges online (e.g., via "InnoCentive").

In spite of its importance, managing knowledge is challenging. Knowledge often is tacit and hidden in human capabilities and social interactions. It is difficult to pin point knowledge and capture it, since its fluidity requires paying attention to a range of social and motivational factors.

This KM course is meant to help you to understand these new organizational challenges and to think of possible solutions. The course not only offers various insights into how organizations manage their knowledge, but also poses novel questions and challenges that you can explore further and conduct research on. To gain a deep understanding of knowledge management, you conduct a research project in an organization to examine a specific knowledge management challenge and provide insights about it by drawing on scientific literature.

The course provides several opportunities for you to interact with organizations, to learn from hands-on managers and consultants who will give guest lectures, and to be exposed to various job opportunities

related to knowledge management.

### Onderwijsvorm

Lectures  
Tutorials

### Toetsvorm

Group project; interim assessments; and final evaluation

### Literatuur

A selection of book chapters and academic articles to be announced.

### Aanbevolen voorkennis

BK:

2.1 Business Information Technology; 2.4 Technology and Innovation Management; 2.4; 2.5 BRM II Qualitative research methods

IBA:

2.1 Business information systems; 2.4 Digital innovation and virtual organizations in a global setting; 2.5 BRM II – Qualitative research methods

## Kopstukken I

<b>Vakcode</b>	W_BA_KOPI ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	prof. dr. M. Martijn
<b>Examinator</b>	prof. dr. M. Martijn
<b>Docent(en)</b>	prof. dr. M. Martijn
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Het doel van deze collegereeks is het verwerven van kritische kennis van een aantal hoogtepunten uit de antieke en middeleeuwse wijsbegeerte. Dat wil zeggen dat je na dit college (1) kennis hebt van het gedachtegoed van een aantal grote denkers uit de westerse wijsbegeerte in Oudheid en Middeleeuwen, (2) inzicht hebt in de vragen waarop die wijsbegeerte een antwoord probeert te zijn.

Na dit college ben je in staat (1) filosofische teksten uit Oudheid en Middeleeuwen te interpreteren, (2) een aantal filosofische kernbegrippen te hanteren, (3) in eigen woorden de ontwikkeling van de antieke en middeleeuwse wijsbegeerte te schetsen.

### Inhoud vak

Dit college bestrijkt de westerse wijsbegeerte van de 6e eeuw v.Chr. tot en met de 14e eeuw n.Chr. en beoogt een inleiding te zijn in de Antieke en Middeleeuwse wijsbegeerte aan de hand van het gedachtegoed van Plato, Aristoteles, Boethius, Thomas van Aquino en Ockham. We zullen ons concentreren op de relatie tussen wereld, denken en taal (metafysica, epistemologie, logica).

### Onderwijsvorm

Interactief hoorcollege; werkcollege tekstanalyse.

### Toetsvorm

Wekelijkse opdrachten ter voorbereiding op de werkcolleges; afsluitend tentamen. De opdrachten moeten voldoende zijn, het tentamen bepaalt het eindcijfer.

### Literatuur

- Reader Kopstukken I 1617

### Doelgroep

Minorstudenten Filosofie; verplicht voor Premasterstudenten Wijsbegeerte.

## Kopstukken II

<b>Vakcode</b>	W_BA_KOPII ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. J.M. Halsema
<b>Examinator</b>	dr. J.M. Halsema
<b>Docent(en)</b>	dr. J.M. Halsema, dr. C.H. Krijnen
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Studenten verwerven: 1. kennis en inzicht in grondvragen van de filosofie; 2. kennis en inzicht in de grondgedachten van een aantal hoofdfiguren uit de filosofische geschiedenis van de 17e-20e eeuw; 3. inzicht in verbanden en verschillen tussen de belangrijkste stromingen in de moderne en hedendaagse wijsbegeerte.

Studenten oefenen: 1. de vaardigheid om teksten uit de filosofische geschiedenis te bestuderen en kritisch te beschouwen; 2. academisch oordeelsvermogen; 3. argumentatieve vaardigheden; 4. mondelinge en schriftelijke uitdrukkingsvaardigheden.

### Inhoud vak

In dit vak worden een aantal grote denkers uit de filosofische geschiedenis van de 17e tot en met de 20e eeuw behandeld die een onuitwisbare invloed hebben uitgeoefend op het filosofische denken in het algemeen en het denken over wetenschap en cultuur in het bijzonder. Achtereenvolgens komen aan de orde: Descartes, Hume, Kant, Hegel, Nietzsche, Heidegger, Arendt, Wittgenstein en Foucault.

### Onderwijsvorm

Hoor- en werkcolleges

### Toetsvorm

Protocol over de primaire literatuur (20%); tussentoets over moderne filosofie met essayvragen (40%); eindtoets over hedendaagse filosofie met essayvragen (40%). Er geldt een verplichte aanwezigheid van 80% bij

de colleges in deel I en 80% in de colleges van deel II omdat anders de leerdoelen niet kunnen worden bereikt.

### Literatuur

Handboek: Selectie uit A. Braeckman, B. Raeymakers, G. van Riel, Wijsbegeerte. Leuven: Lannoo Campus, 2010 of latere editie. H.J. Störig, Geschiedenis van de filosofie (editie 2000 of later). Primaire literatuur (ongeveer 30 pagina's per werkcollege). Nadere informatie volgt via Blackboard.

### Doelgroep

Minor studenten; premasterstudenten

### Overige informatie

Deze module maakt onderdeel uit van de Universiteitsminor Filosofie.

## Leadership: Mobilizing People

<b>Vakcode</b>	E_BK3_LMP ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. B.R. Spisak
<b>Examinator</b>	dr. B.R. Spisak
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Leadership in the sense of 'getting things done through people', requires all sorts of interpersonal influencing skills. However, increasing both personal effectiveness and team output, requires being able to analyze employee or manager behavior in order to understand both its person-related determinants (e.g., intelligence or motivation), and work situation-related causes (e.g., nature of the team or type of organization).

For that reason, you will investigate two main types of frameworks (theories, models) for studying leadership. In particular you will focus on the difference between 'dimensional' (generalized personal styles) or 'situational' (concrete work) approaches, and apply both to examples of leadership. For instance, in studying leadership as a means for interpersonal influence, you will learn to use both leadership questionnaires and case materials, focusing either on the leader as a person, or on the leader as a job task. Obviously this requires an understanding of the theoretical and methodological assumptions underlying both approaches.

In both cases, key to leadership will appear to be decision making: both with respect to what to needs to be done (which competences, which skills?) and with respect to how to assess the effectiveness of what will be done (which criterion, for instance human consideration or organizational effectiveness?) . An important application will be the case of ethical leadership.



### Inhoud vak

Academic Skills: You will analyze and critically reflect on existing literature on leadership and related areas, and translate this knowledge to different types of settings.

Knowledge: You will obtain a deeper understanding of the theoretical and methodological domain of leadership research

Bridging Theory and Practice: Ability to deal creatively and systematically with problems that arise in professional practice. This course will help you to structure and solve practical issues in the area of leadership and management, by applying relevant theoretical and methodological concepts.

Social Skills: You will work in small teams and in larger teams during exercises to assess and practice skills of interpersonal influence.

Self-awareness: You will develop a deeper understanding of your own leadership skills, in particular with respect to the context of ethical decision making.

### Onderwijsvorm

Lectures and tutorials

### Toetsvorm

Written exam - individual assessment

(interim) assignments - group and/or individual assessment

### Literatuur

To Be Announced. Will include a textbook and journal articles.

## Lineaire Algebra 1

<b>Vakcode</b>	X_400638 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. R. Planque
<b>Examinator</b>	dr. R. Planque
<b>Docent(en)</b>	dr. R. Planque
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	100

### Doel vak

Na het succesvol afronden van dit vak

- is de student bekend met de opbouw van de algemene theorie van eindige dimensionale vectorruimten;
- heeft de student operationele kennis van het begrippenapparaat van de matrixrekening en (eindig dimensionale) lineaire algebra;
- is de student bekend met elementaire toepassingen in differentiaalvergelijkingen, statistiek en meetkunde.

### Inhoud vak

Inhoud vak:

De volgende onderwerpen worden behandeld:

- stelsels lineaire vergelijkingen;
- lineaire (on)afhankelijkheid;
- lineaire transformaties en matrices;
- matrixoperaties;
- determinanten;
- vectorruimten en deelruimten;
- basis en dimensie;
- rang van een matrix, dimensiestelling;
- coördinatiesystemen en basisovergangen;
- eigenwaarden en eigenvectoren;
- diagonalisatie van matrices;
- inwendig product, lengte en orthogonaliteit;
- orthogonalisering en de methode van de kleinste kwadraten;
- diagonalisatie van symmetrische matrices;
- kwadratische vormen.
- singuliere waarde decompositie

### Onderwijsvorm

Per week twee hoorcolleges en een werkcollege

### Toetsvorm

Twee schriftelijke deeltentamens en een aantal schriftelijke tussentoetsen

### Literatuur

David C. Lay, Stephen R. Lay and Judi J. McDonald, Linear Algebra and its Applications, 5th edition, Pearson Global Edition, ISBN-139781292092232

### Doelgroep

1W;1Ect

### Intekenprocedure

Voor deze module worden nieuwe eerstejaars studenten ingetekend door de faculteit. Indien je het vak al eerder hebt gevolgd of het vak als "tweedejaars" wilt volgen, dien je je alleen in te tekenen voor de module en het tentamen via VUnet. De faculteit tekent je daarna in voor de onderwijsvormen.

## Logic and Modelling

<b>Vakcode</b>	X_401015 (401015)
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	drs. J. Endrullis
<b>Examinator</b>	drs. J. Endrullis
<b>Docent(en)</b>	drs. J. Endrullis
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Practicum, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	200

## Doel vak

The course objective is to obtain a good knowledge and understanding of the most important logical systems: propositional logic, predicate logic and modal logic. The students learn to use these systems to model data, knowledge and actions. An important aspect of the course is the ability to reason using these logics and reason about these logics:

what can and what can not be expressed with a logic system, and what are the differences between the systems with respect to expressive power or the existence of decision procedures.

## Inhoud vak

The focus of the lecture is on propositional logic and first-order predicate logic. We work with natural deduction as proof system. The relation between semantic and syntactic methods is important; the central keywords are correctness, consistency and completeness. Moreover, we pay attention to expressive power, for example when formulating queries. A fundamental tool, for this purpose, is the compactness theorem.

Algorithmically there the contrast between the decidability of propositional logic and the undecidability of predicate logic (for example, seen by a coding of the Post Correspondence Problem).

As a variation of the mentioned logics, we consider modal logic with Kripke models as semantics.

## Onderwijsvorm

Lecture, exercise classes and computer practicum.

## Toetsvorm

Exam, and computer assignments.

## Literatuur

Michael Huth, Mark Ryan, Logic in Computer Science (tweede druk)  
Cambridge University Press, 2004 ISBN 0 521 54310 X

## Aanbevolen voorkennis

Logic and Sets (Logica en Verzamelingen)

## Doelgroep

2CS

## Machine Learning

<b>Vakcode</b>	X_400154 (400154)
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. E.W. Haasdijk
<b>Examinator</b>	dr. E.W. Haasdijk
<b>Docent(en)</b>	dr. E.W. Haasdijk
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

<b>Niveau</b>	300
---------------	-----

### Doel vak

The goal of this course is to present the dominant concepts of machine learning methods including some theoretical background. We'll cover established machine learning techniques such as Decision Trees, Neural Networks, Bayesian Learning, Instance-based Learning and Evolutionary Algorithms as well as some statistical techniques to assess and validate machine learning results.

### Inhoud vak

Machine Learning is the study of how to build computer systems that learn from experience. It is a very active subfield of Artificial Intelligence that intersects with statistics, cognitive science, information theory, and probability theory, among others. Recently, Machine Learning has gained great importance for the design of search engines, robots, and sensor systems, and for the processing of large scientific data sets. Further applications include handwriting or speech recognition, image classification, medical diagnosis, stock market analysis, bioinformatics, etc.

### Onderwijsvorm

The course will be taught in two parts; the first part consists of lectures with written examination. The second part of the course will have a more do-it-yourself character (e.g., practical assignment and/or literature research) and result in a report and/or presentation. The course will be taught in English.

### Toetsvorm

Exam and assignment with a written report in teams of 5 students

### Literatuur

TBA

### Doelgroep

2BA, 2BA-D, 3CS, 2LI, 3IMM, mBio

## Macroeconomics I

<b>Vakcode</b>	E_EBE1_MACEC ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. E.J. Bartelsman
<b>Examinator</b>	prof. dr. E.J. Bartelsman
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	100

### Doel vak

Het overkoepelende doel van dit vak is je bekend te maken met de basisbegrippen van de macro-economie, waaronder nationaal inkomen, economische groei, inflatie, werkloosheid, en monetair en fiscaal beleid

(Vakkennis, Link met de Praktijk).

Na het succesvol afronden van dit vak:

- kun je wetenschappelijke vragen uit empirische observaties distilleren (Academische vaardigheden);
- kun je data zoeken in openbaar toegankelijke bronnen zoals Statline, Eurostat en de Wereldbank en deze bewerken en analyseren (Onderzoeksvaardigheden);
- kun je berekeningen maken over bijvoorbeeld inflatie (CPI) en economische groei (Kwantitatieve Vaardigheden, Link met de Praktijk);
- kun je uitleggen wat de rol is van economische instituties en organisaties zoals het Centraal Bureau voor de Statistiek (CBS), het Centraal Planbureau (CPB), en de Europese Centrale Bank (Link met de praktijk; Algemene ontwikkeling).

### **Inhoud vak**

In dit vak staat het functioneren van de gehele economie centraal, soms voor een individueel land, soms voor landen in internationale context. Het vak begint met een beschrijving van macro-economische basisbegrippen, zowel vanuit theoretisch als empirisch perspectief. Een inleiding over geld en bankwezen breidt deze begrippen uit naar de monetaire economie. Daarna wordt gekeken naar de reële kant van de macro-economie, oftewel hoe schaarse middelen worden ingezet om goederen en diensten te leveren. Hiertoe wordt ook een basismodel van economische groei behandeld. Vervolgens worden de reële en monetaire kant verbonden om conjunctuurcycli, werkloosheid, en inflatie in samenhang te bekijken. Tot slot wordt er ook een begin gemaakt van een analyse van fiscaal en monetair beleid, mede in context van de Euro en internationale kapitaalmarkten. Het vak sluit daarmee nauw aan bij de actualiteit en fundamentele beleidsvragen waar economen zich mee bezighouden. Na een kwart eeuw van gestage economische groei, dalende werkloosheid, en lage inflatie werd de westerse wereld in 2008 opgeschrikt door de grootste economische crisis sinds 1930. Was dit te wijten aan falend toezicht op de financiële sector, en dus micro-economisch van aard? Of schuilt er in het economisch verkeer tussen producenten en consumenten, tussen schakels in (internationale) productieketens, en tussen burger en overheid iets dat de som van de micro-economische delen overstijgt? In dit vak bouwen we voort op de verworven kennis in Microeconomics I en bestuderen we het verloop van de geaggregeerde economische groei, van conjuncturele bewegingen in werkloosheid, investeringen, consumptie en handel, en de samenhang tussen inflatie, wisselkoersen, en geld en bankwezen. Ook wordt in het vak ingegaan op de boekhoudkundige verslaglegging over de macro-economie gebruik makend van concepten die ook in Accounting I voorkomen. Verder spelen macro-economische grootheden als rente, wisselkoersen en economische groei een belangrijke rol bij veel bedrijfseconomische beslissingen die in andere vakken zoals Marketing en Finance aan bod komen.

### **Onderwijsvorm**

Hoorcolleges.  
Werkcolleges.

### **Toetsvorm**

Tentamen (Individuele beoordeling).  
Wekelijkse opdrachten (Individuele beoordeling).

### **Literatuur**

- Mankiw, N.G. en M.P. Taylor (2014), *Macroeconomics*, European Edition (second edition), W.H. Freeman & Co Ltd.(ISBN-13: 978-1464141775).
- Aangevuld met online materiaal.

### Vereiste voorkennis

Geen.

### Aanbevolen voorkennis

Economic Challenges, Quantitative Research Methods I en Microeconomics

I.

## Macroeconomics II

<b>Vakcode</b>	E_EBE2_MACEC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. B.A. Brugemann
<b>Examinator</b>	dr. B.A. Brugemann
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

We will study in depth the problems of fiscal and monetary policy that have faced European policy makers in recent years (Bridging Theory and Practice). Before examining what researchers have done, you will try to develop your own approach to researching the problem (Academic Skills). You will then learn about what current macroeconomic research has to say about these problems, thereby acquiring a more advanced foundational knowledge of macroeconomics (Knowledge), while applying the quantitative skills you acquired in previous courses (Quantitative Skills). After seeing what researchers have done, you will reflect on whether this work is convincing (Academic Skills). You will write a policy brief as part of a consulting team, honing your social skills, taking another step in your general development by connecting your academic training with current events (Bridging Theory and Practice; Social Skills: Research Skills).

At the end of the course:

- you will be able to name and explain the main challenges in empirically identifying the causal effects of monetary and fiscal policy;
- you will be able to read recent empirical research papers on fiscal and monetary policy in such a way that you can categorize how the papers have dealt with these challenges of identifying causal effects;
- you will be able to work with two-period versions of the main models used in current economic research to think about the effects of monetary and fiscal policy: the Real Business Cycle Model and the New Keynesian Model; in particular, you will be able to solve for the equilibrium of such models using calculus and equation-solving, and use your solution to determine the direction of the effects of fiscal and monetary policy on macroeconomic variables;
- you will be able to recognize and explain the mechanisms that generate the effects of fiscal and monetary policy in these models, correctly applying concepts including income effects, substitution effects, rigid

nominal prices, and the liquidity trap;  
 - you will be able to evaluate the effectiveness of fiscal and monetary policy in dealing with macroeconomic problems, weighing the available empirical evidence and theoretical findings, and be able to compose short essays that present your evaluation in a coherent way;  
 - for a specific current problem related to fiscal and monetary policy, you will be able to find relevant empirical and theoretical research, evaluate the implications of this research, and combine it with the knowledge acquired in the course to develop a solution to the problem; you will be able to compose an argument supporting your solution in the form of a policy brief.

### Inhoud vak

In recent years, policy makers in Europe have been confronted with important decisions concerning fiscal and monetary policy. Should governments implement austerity measures? If so, is it better to cut spending or raise taxes? Should the ECB use quantitative easing to promote the recovery? Would it be better for Greece to leave the Euro?

In this course we will put ourselves in the shoes of policy consultants. We will think about ways to approach these policy questions, examine empirical and theoretical research by macroeconomists relevant for these questions, reflect on how convincing this research is, and develop research-based solutions in the form of policy briefs.

### Onderwijsvorm

The course uses a flipped classroom approach. This means that we do not use traditional lectures in the class meetings. Rather, we provide readings, videos, and exercises which you use to prepare for class meetings. Most of the time in class meetings is devoted to interactive activities that help us to make sense out of the materials you prepared. There are two class meetings and one workgroup per week.

### Toetsvorm

Written exam - individual assessment.  
 Regular assignments - individual assessment.  
 Policy brief - group assessment.

### Literatuur

There is no required textbook for this course. We provide extensive notes and videos and assign additional readings from academic journals, newspapers and magazines, and blogs.

### Aanbevolen voorkennis

Quantitative Research Methods I, Microeconomics I, Macroeconomics I, Academic Skills.

## Management Accounting

<b>Vakcode</b>	E_EBE2_MANAC ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. E. Wiersma
<b>Examinator</b>	dr. E. Wiersma

<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Tijdens deze cursus leer hoe je de academische literatuur in de accounting discipline kunt gebruiken om keuzes die bedrijven maken ten aanzien van de keuze van management accounting methoden beter te begrijpen en op welke manier onderzoek in deze discipline wordt bedreven (Academische vaardigheden, Link met de praktijk). Je leert hoe je zelf onderzoek kunt opzetten voor je bachelor en masterscriptie en hoe je kritisch kunt reflecteren op management accounting onderzoek (Onderzoeksvaardigheden). Je krijgt inzicht in verschillende management accounting technieken en de invloed van betreffende technieken op het gedrag van en beslissingen door managers (Vakkennis).

Meer concreet leer je:

- op welke gronden bedrijven een keuze kunnen maken uit verschillende management accounting technieken;
- wat de invloed is op menselijk gedrag van de verschillende management accounting technieken;
- dat management accounting technieken zijn ontworpen op basis van verschillende economische en gedragsmatige theorieën;
- dat management accounting een dynamisch vak is waarin continu onderzoek wordt gepubliceerd dat nieuwe inzichten genereert;
- dat management accounting een "evidence based" discipline is;
- hoe je inzichten vanuit de wetenschappelijke literatuur kunt vertalen naar de manier waarop management accounting-technieken worden toegepast in de praktijk;

Verder krijg je:

- inzicht in een breed scala aan onderwerpen die je zelf zou kunnen onderzoeken in je bachelor en masterscriptie en inzicht in hoe je dat zou kunnen onderzoeken;
- door het presenteren en het becommentariëren van artikelen een goed inzicht in de sterke en zwakke punten van gepubliceerd onderzoek.

### Inhoud vak

Tijdens Accounting I en Accounting II heb je de werking van alle accounting methoden eigen gemaakt. In deze cursus gaan we (i) analyseren waarom bedrijven voor bepaalde management accounting methoden kiezen en (ii) onderzoeken hoe individuele managers en werknemers reageren op accounting informatie. We doen dit aan de hand van het behandelen van empirische accounting literatuur.

### Onderwijsvorm

Hoorcolleges.  
Werkcolleges.  
Q&A-college (in week 7).

### Toetsvorm

Presentatie/review papers - groepsbeoordeling.  
Tussentoets – individuele beoordeling.  
Tentamen – individuele beoordeling.

### Literatuur

Set van artikelen. Elke week wordt een aantal artikelen uit de wetenschappelijke literatuur behandeld. Deze zijn te downloaden via [ubvu.vu.nl](http://ubvu.vu.nl), electronic journals.



**Vereiste voorkennis**

Geen.

**Aanbevolen voorkennis**

Accounting I en II , Academic Skills, Quantitative Research Methods I en II.

**Overige informatie**

Geen.

## Managing and Improving Quality

<b>Vakcode</b>	E_IBK3_MIQ ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. Y. Ghiami
<b>Examinator</b>	dr. Y. Ghiami
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

**Doel vak**

Managing and improving quality is a critical activity in any modern business organization. Quality is directly linked to productivity, competitiveness, customer satisfaction, business growth, elimination of waste and other non-value added activities, and overall business success. Cycle time and throughput is just as important in a hospital emergency room as it is in a semiconductor factory. Defects and errors don't occur just in factories, they occur in transactional and service business such as banks, insurance companies, and hospitals. Even your local and national governments have a keen interest in improving service quality in operations such handling tax forms and information requests, issuing driving licenses and international passports etc . Quality management has therefore become a well-known management philosophy, which has been adopted in many disciplines.

Contemporary organizations form networks with other businesses and organizations with which they have direct or indirect commercial relationships. These so-called supply chain networks aim at the integration of the integration of systems of customers, suppliers, technology and people to best meet customer demand. Successful quality management has the same ambition and scope. Quality management and improvement therefore represents an essential skill for supply chain managers. At the same time, the supply chain offers a unifying theme to apply the integration of systems of customers, suppliers, technology and people in quality management.

This course aims to equip students with practical quality management and improvement techniques using tools that are grounded in research.

Students learn how to describe and analyse quality problems (learning objective "academic skills") in order to understand the role of quality management in organizations (learning objective "knowledge") Students will be able to identify and select appropriate quality measurement and management techniques to study, quantify and improve a quality problem (learning objective "quantitative skills") and to apply results from

academic research in practical case settings (learning objective “bridging theory and practice”) and critically reflect on the research (learning objective “research skills”). Students present their findings (learning objective “social skills”).

### Inhoud vak

Quality problems usually are the outcome of uncontrolled or excessive variability in product or service characteristics that are critical to the customer. Statistical tools and other analytical methods play an important role in solving these problems. However, these techniques need to be implemented within a management structure that will ensure success. We focus on both the management structure and the statistical and analytical tools. We focus on the following aspects in the course:

- Management aspects of quality
- Statistical process control
- Acceptance sampling
- Process Design
- Quality Function Deployment
- Design of experiments for improving quality
- Six sigma methodology

We furthermore aim to involve students in the entire process of performing a quality assessment and improvement cycle by studying a real-life case.

### Onderwijsvorm

Lectures  
Tutorials

### Toetsvorm

Written exam – Individual assessment  
(Interim) Assignment(s) – Group assessment

### Literatuur

To be announced

### Aanbevolen voorkennis

For BK:

1.1 Business Processes; 1.1 Business Mathematics; 1.4 Supply Chain Management I; 2.4 Supply Chain Management II

For IBA:

1.1 Business Mathematics; 1.4 Global Supply Chain Management; 1.6 Business Processes; 2.5 SCM in Emerging Economies

## Managing Negotiations: Getting to Yes

<b>Vakcode</b>	E_BK3_MNGY ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. E.P.H.M. Maassen
<b>Examinator</b>	drs. E.P.H.M. Maassen
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege, Werkcollege
<b>Niveau</b>	300

## **Doel vak**

Academic Skills: Students will enhance their analytical ability and be able to identify the need for negotiation skills in an organizational context.

Knowledge:

Students will:

1. identify, predict, and appreciate the role of conflict in social interaction
2. learn how to apply integrative and distributive bargaining strategies
3. understand that negotiation skills reduce stress and frustration
4. understand the significance of workplace diversity and communication styles for developing negotiations skills.
5. develop an awareness of the emotional aspects of dealing with conflict.

Bridging Theory and Practice: Students will apply the knowledge gained from the lectures in simulation exercises.

Social Skills: Students will work in teams and practice negotiation skills via simulation exercises, role plays and case study assignments.

Self-awareness: Students are required to reflect on the content presented in the course and explain how this impacted their personal development.

## **Inhoud vak**

Negotiation is all around you, whether it concerns international disputes, labor agreement negotiations, or even a discussion at home about who does the grocery shopping, all of it involves negotiation.

Therefore, the overall theme of this minor program, is to become an effective decision maker, and this is impossible without learning negotiation skills. The activities in this course consists of three different parts. Throughout the course, we combine theoretical knowledge from the lectures with practical exercises. The three parts of the course are listed below.

Part 1: Conflict and Conflict Resolution. What exactly is conflict? Are there different types of conflict? What is the role of conflict?

Part 2: Negotiation Skills. Is it difficult to become an effective negotiator? Can distributive and integrative negotiation strategies be useful in the workplace?

Part 3: Negotiation and Workplace Diversity. Do emotions play a role in negotiations? Topics in this part will include communication skills for interacting with different cultures, nationalities, gender, sexuality, religions, disabilities and other types of differences in the workplace.

## **Onderwijsvorm**

Lectures and tutorials

## **Toetsvorm**

written exam - individual assessment

(interim) assignment - group and/or individual assessment

## **Literatuur**

tba

# Marketing Sustainable Innovations

<b>Vakcode</b>	E_IBA3_MSI ()
----------------	---------------

<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.H.P. Kleijnen
<b>Examinator</b>	dr. M.H.P. Kleijnen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### **Doel vak**

Marketing sustainable innovations is a subject that is truly interdisciplinary in nature. You will study various perspectives of marketing (Knowledge), driven from an innovation, psychology, value and behavioural economics point of view. As a result, this course will challenge you to exam and understand sustainability issues from different perspectives, to abstract those insights relevant to specific consumer-related problems when marketing such innovations and to build a well-argued case for successfully launching sustainable innovations (Academic Skills).

Being the last subject in a series of five, this course brings together insights from previous courses, not just from a theoretical but also a practical point of view. Building upon the previous period where you learned about developing and designing sustainable innovations, this course takes you to final stage in effectively launching that innovation into the market (Bridging Theory and Practice).

This assignment is completed in a bootcamp-style setting, where you work intensively during a short time period in a team setting (Social Skills). Such 'pressure-cooker' situations challenge you to source various skills to create not only optimal content (a marketing plan) but also an effective team, where tasks and time are managed well and you can constructively reflect on your own as well as your team members' performance (Self-awareness).

### **Inhoud vak**

Building on the preceding subjects in the minor Sustainability and Innovation, this course analyzes the final element in the value chain: bringing sustainable products and services to the market. The course will end with a boot camp in which the students are challenged to combine the insights gained in previous courses, into an attractive marketing plan that takes all stakeholders into account.

The course starts with a stakeholder marketing perspective, specifically focusing on the consumer and how that consumer acts within a network of stakeholders. It discusses the psychological and behavioral aspects that come in to play when bringing sustainable innovations to the market. Despite efforts involving consumers in early stages of innovation, sustainable products and services often struggle with limited take-off. As an (international) business professional, but also as a sustainability consultant or policy maker, it is crucial to understand the mechanisms that drive the adoption of sustainable innovations. We discuss relevant insights from innovation, psychology, behavioral economics, and consumer value research to gain a better understanding of what affects actual consumer behavior. Based on these insights, students will develop a marketing plan. This

will challenge students to connect and integrate knowledge and insights from different subjects and help to recognize how various elements of the value chain and value network need to be aligned to create a successful sustainable product or service.

### Onderwijsvorm

Lectures  
Tutorials

### Toetsvorm

Group project assignment – Group assessment  
Group and Class participation – Individual assessment

### Literatuur

This course is article based.  
Readings will be announced on blackboard.

### Aanbevolen voorkennis

This course is part of the Minor Sustainability and Innovation.  
This course builds on the courses of the minor in period 1 and 2.  
Additionally, knowledge of basic marketing principles or marketing management is recommended

### Doelgroep

This course is part of the Minor Sustainability and Innovation. This minor can be followed by all FEWEB bachelor students. In addition, advanced bachelor students (third year) from other faculties as well as other universities are welcome to join. Particularly those with an interest in Business and Organization Studies, Economics, Social Sciences, Social Psychology, Healthcare, Media and Communication Studies, Engineering, Technology Management, Operations Management and Education.

It is especially interesting for:

- Future managers who want to understand how sustainability can be implemented in existing business
- Entrepreneurs / intrapreneurs that want to exploit the opportunities sustainability offers
- Future consultants in sustainability, strategic business consultants, of government policy consultants
- Students that want to be active in NGO's or other societal organizations

## Mathematical Economics I

<b>Vakcode</b>	E_EOR2_ME1 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. H.E.D. Houba
<b>Examinator</b>	dr. H.E.D. Houba
<b>Docent(en)</b>	dr. H.E.D. Houba, dr. J.R. van den Brink
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

## **Doel vak**

Acquaint students with normative and predictive perspectives of Mathematical Economics through several economic decision models, confront them with empirical evidence and some alternative evidence-based theories from behavioral economics.

Students will learn, understand and reflect on important theoretical concepts. They will be introduced to the art of modeling economic decision situations with the aim to analyze and solve the model.

Students will be able to calculate (and compute with dedicated software) theoretical solutions. A critical attitude towards calculated outcomes (why is the solution found correct) and reflection on what the model solution implies for reality will be encouraged.

## **Inhoud vak**

Mathematical Economics deals with individual-decision making in a variety of economic contexts, such as markets and auctions. It aims at describing these contexts within mathematical models that can be analyzed and (numerically) solved with mathematical methods.

(Mathematical) Economics consists of evidence-based mathematical descriptions and predictions of reality (descriptive theory) and making better economic decisions prescribing how individuals should behave (normative theory).

Many economic situations can be formulated as nonlinear optimization problems, problems that are simultaneously introduced in OR1. Other economic situations, especially those involving interaction as studied by game theory, require other mathematical techniques. The rise of experimental economics and the discovery of many behavioral anomalies, which are observed deviations from classical theory, has brought exciting times to Mathematical Economics. Classical theories are abandoned more and more while a search for evidence-based descriptive theories dominates the current scientific research agenda. In this first course in Mathematical

Economics, classic theories, classic experiments testing their fundamentals and classic anomalies will be presented side by side in order to gain a better understanding of the fundamental tensions between descriptive theory and reality. Participants in this course are asked to participate in several experiments and compare their performance to reported evidence in classic references to see whether these can be replicated.

## **Topics**

- Mathematical foundations of utility / objective functions
- Decision theory and its application to decision making under uncertainty, consumer theory, producer theory and (optional) intertemporal choice.
- Classic experiments and classic anomalies.
- Game theory and its economic applications, such as oligopolistic competition, sustainable non-binding agreements, information asymmetries.
- Applications of non-linear optimization in Mathematical Economics.
- Computational issues.

## **Onderwijsvorm**

Classes. One lecture and one tutorial per week.

In several weeks, video lectures will be part of the course material. Participants are expected to be active (raise questions, engage in discussion, present their answers to exercises, explain where they

encountered problems in solving, etc.).

### Toetsvorm

Intermediate exam – Individual assessment

Final exam – Individual assessment

Individual assignment - Individual assessment

### Literatuur

A reader consisting of an electronic syllabus, selected articles, selected chapters from textbooks, and selected videos from Massive Open Online Courses (MOOCs).

All compulsory literature will be provided through Blackboard.

### Aanbevolen voorkennis

Analysis I and II, Linear Algebra, Probability Theory and to a much lesser

extent Statistics and Programming.

### Doelgroep

This course is an obligatory second-year course in the bachelor Econometrics and Operations Research.

Exchange students and students from other bachelors, such as Economics, with sufficient mathematical background (active knowledge of elementary probability theory and elementary mathematics such as differentiation and the Lagrange method).

### Overige informatie

Mathematical economics is a broad field and students are encouraged and given some room to pursue their individual interests. For example, participants interested in mathematics may dig further in mathematical proofs, participants interested in economic applications may explore mathematical economic theories, participants interested in computer science may investigate computational methods.

## Mathematical Economics II

<b>Vakcode</b>	E_EOR2_ME2 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.A. Estevez Fernandez
<b>Examinator</b>	dr. M.A. Estevez Fernandez
<b>Docent(en)</b>	dr. I.D. Lindner, dr. M.A. Estevez Fernandez
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### Doel vak

In a globalized world, cooperation among economic partners become increasingly relevant. Another relevant aspect in now a days economic environments is social and economic networks. In this course, the student learns basic concepts on mathematical modeling of bargaining and cooperation and analysis the role of social and economic networks and social interactions in explaining economic behavior.

## Inhoud vak

Bargaining Problems:

- Nash bargaining solution
- Kalai-Smorodinsky bargaining solution

Cooperative Game Theory:

- Introduction to cooperative games
- The core of a cooperative game and balancedness
- Convexity and the Shapley value
- Linear production games
- Sequencing games

Social Networks:

- Introduction to social networks
- Random networks
- Strategic network formation
- Diffusion of networks
- Learning on networks
- Games on networks

## Onderwijsvorm

Classes. During classes time will be made for discussing exercises.

## Toetsvorm

Intermediate exam – Individual assessment

Final exam – Individual assessment

Individual assignment - Individual assessment

## Literatuur

Syllabus on Blackboard

Jackson, M.O (2010), Social and Economic Networks, Princeton University Press, Available as paperback or ebook.

## Aanbevolen voorkennis

Linear Algebra, Analysis I, Probability Theory, Operations Research I

## Mathematical Economics III

<b>Vakcode</b>	E_EOR3_ME3 ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J.R. van den Brink
<b>Examinator</b>	dr. J.R. van den Brink
<b>Docent(en)</b>	dr. H.E.D. Houba, dr. J.R. van den Brink
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

## Doel vak

The learning objectives of this course are that students:

- can apply theories and methods learned in Math.Econ. I and II to analyze complex economic systems;
- gain a deeper knowledge of economic behavior and allocation in economic



organizations;  
-are able to critically discuss theoretical results in the context of economic problems;  
-are able to read the scientific literature, and write a short paper or research proposal.

### **Inhoud vak**

The goal of this course is to bring the students in contact with recent developments in Mathematical Economics, with a focus on societal relevant themes related to Auctions, Games and Networks, by studying recent literature and apply previously obtained knowledge and skills to analyze complex economic systems.

The course will be organized along the following two main themes: (i) Auctions, and (ii) Games and networks.

Organizations in society and economics become more complex and it requires advanced knowledge of and skills in applying models of decision making in complex economic systems. For example, auctions of radio frequencies, 4G networks, gas station locations along highways etc. require sufficient knowledge of auction theory but also sufficient skills to be able to apply these. Another example is that markets become less anonymous and networks of CEO's and customer networks become more and more important. Also, with sites as eBay, the internet is growing as an economic system of trade.

Analyzing complex economic systems requires not only knowledge of various theories and methods of economic behavior and economic organizations, but also to be able to combine different theories and methods in an appropriate way. This course builds on the knowledge of Mathematical Economics 1 (individual, interactive and collective decision making) and Mathematical Economics 2 (cooperative games and networks), and discusses topics that combine different theories and methods studied before. Typical topics that will be discussed are auction games (strategic as well as cooperative), systemic risk in financial networks, strategic foundations of cooperative game solutions, games and subjective beliefs, and river water allocation problems. Attention will be given to behavioral, game theoretic as well as computational aspects.

Using recent literature, developments in economic behavior and organizations will be studied, and students will play an active role in analyzing these developments, for example by writing short research proposals.

### **Onderwijsvorm**

Lectures, Tutorials

### **Toetsvorm**

Written exam, Home assignment

### **Literatuur**

Will be announced in the Course Manual and on Blackboard

### **Aanbevolen voorkennis**

Analysis I and II, Linear Algebra, Probability Theory, Mathematical Economics I and II, and to a lesser extent Statistics and Programming.

## Doelgroep

Third year bachelor students Econometrics and OR  
International Exchange students with a quantitative interest (for  
information contact J.R. van den Brink, email: [j.r.vanden.brink@vu.nl](mailto:j.r.vanden.brink@vu.nl))

## Measure Theory

<b>Vakcode</b>	X_401028 (401028)
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	prof. dr. R.W.J. Meester
<b>Examinator</b>	prof. dr. R.W.J. Meester
<b>Docent(en)</b>	prof. dr. R.W.J. Meester
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

### Doel vak

Basics of measure theory and the Lebesgue integral

### Onderwijsvorm

Classical classes with exercise classes.

### Vereiste voorkennis

Basics of calculus.

## Meesterwerken uit de wereldliteratuur

<b>Vakcode</b>	L_AABAALG020 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	12.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. M.J.E. van Tooren
<b>Examinator</b>	dr. M.J.E. van Tooren
<b>Docent(en)</b>	dr. M.J.E. van Tooren, dr. J.H.C. Bel, dr. M.H. Koenen, prof. dr. B.J. Peperkamp, prof. dr. D.H. Schram
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Kennismaking met de belangrijkste periodes en stromingen binnen de West-Europese literatuur vanaf de Middeleeuwen tot heden aan de hand van klassiek geworden meesterwerken.

### Inhoud vak

Elke week, dat wil zeggen voor elk college, leest de student een literair 'meesterwerk' en een kleine hoeveelheid toegankelijke secundaire literatuur. Op college zal de docent naast het te lezen meesterwerk ook enkele fragmenten uit andere canonieke teksten uit de

betreffende periode/stroming bespreken.

### Onderwijsvorm

hoorcollege met discussie

### Toetsvorm

Verplichte aanwezigheid (80%) en een schriftelijk tentamen aan het eind van periode 1 en periode 2. Het gemiddelde van beide tentamencijfers is het eindcijfer; het minimum cijfer voor elk van beide tentamens is een 5.

### Literatuur

Na een algemene inleiding over o.m. canonvorming worden de volgende teksten besproken: Lucretius (selectie uit zijn werk); Tristan en Isolde; Milton, Paradise Lost; Defoe, Robinson Crusoe; Hugo, Notre Dame de Paris; Flaubert, Madame Bovary; Oscar Wilde, The Picture of Dorian Gray;

Franz Kafka, Die Verwandlung; Willem Frederik Hermans, Tranen der acacia's;

Nabokov, Lolita; Günther Grass, Die Blechtrommel; Hafid Bouazza, Paravion;

Michel Houellebecq, Soumission.

De teksten mogen zowel in de oorspronkelijke taal als in vertaling gelezen

worden. De te lezen secundaire literatuur wordt via BlackBoard bekend gemaakt.

### Vereiste voorkennis

Geen.

### Doelgroep

De minor staat open voor alle studenten.

### Overige informatie

Deze module is een verplicht onderdeel van de minor literatuur.

Daarnaast volgt de student Editietechniek (12 studiepunten) en maakt een keuze tussen Schrijvershuisbezoeken of Creatief Schrijven (6 studiepunten).

## Microeconomics II

<b>Vakcode</b>	E_EBE2_MICEC ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. H.G. Bloemen
<b>Examinator</b>	dr. H.G. Bloemen
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

In deze cursus staat de theorie van het keuzegedrag van economische entiteiten (consumenten, producenten, sectoren, overheden) op een gevorderd niveau centraal. De uitkomsten van dit keuzegedrag hebben hun

weerslag op het functioneren van markten (Vakkennis). De theorie wordt toegepast op verschillende vakgebieden, zoals de publieke economie (welvaartsanalyse, publieke goederen, externaliteiten), industriële organisatie (prijstrategieën, oligopolistische marktvormen, veilingen) en vraagfuncties ('revealed preference') (Vakkennis, Academische vaardigheden). Je leert deze theorieën toe te passen met het analytische instrumentarium van economische modellen (Kwantitatieve vaardigheden). Hiermee leer je tevens kwantitatieve implicaties van de theorieën uit te werken. Je verwerft inzicht in de onderliggende veronderstellingen van theorieën en welke rol deze spelen in het trekken van conclusies (Academische vaardigheden).

Na dit vak ben je in staat:

- het begrip algemeen evenwicht te begrijpen en te analyseren;
- het begrip Pareto efficiëntie uit te leggen, en weten onder welke veronderstellingen Pareto efficiëntie van toepassing is, en wanneer er niet aan voldaan wordt;
- publieke goederen te analyseren in samenhang met het begrip externaliteiten;
- verschillende prijsstrategieën voor ondernemers te herkennen en toe te passen, zoals prijsdiscriminatie, two-part tariffs, en bundling;
- de marktstructuur monopolistische concurrentie te karakteriseren (definitie en marktevenwicht), en de samenhang met begrippen als 'minimum efficient scale' en productdifferentiatie te kennen;
- verschillende modellen voor oligopolistische markten te kennen, en op te kunnen lossen;
- strategische gedrag van bedrijven in markten met oligopolie te analyseren, zoals de beslissing om al dan niet samen te werken, toetreding en toetredingsbelemmering;
- speltheorie toe te passen op bedrijven in oligopolistische markten, en daarbij weten wat de rol is van simultaan versus sequentieel handelen, één- versus meerperioden situaties, pure versus gemengde strategieën;
- verschillende typen veilingen te herkennen, de invloed van de structuur van een veiling op de uitkomst te kennen, strategieën van bidders op een veiling te analyseren, de rol van informatie bij veilingen te kennen;
- specifieke kenmerken van markten in de informatietechnologiesector te analyseren, zoals complementariteiten en systemen, netwerken en netwerkexternaliteiten;
- intertemporele beslissingsproblemen analyseren, met als specifieke toepassingen spaar- en leengedrag, investeringsbeslissingen, human capital theorie, en pensioneringsbeslissingen;
- het begrip asymmetrische informatie kennen en weten hoe dit kan leiden tot marktfalen en moral hazard problemen;
- contracttheorieën en principaal-agent problemen en de rol van asymmetrische informatie en moral hazard daarin kunnen analyseren;
- het begrip revealed preference kennen en toepassen, en weten hoe je op basis van waargenomen keuzes de onderliggende preferenties van consumenten kunt reconstrueren.

### **Inhoud vak**

In deze cursus komt de theorie van het algemeen evenwicht aan de orde. Hierbij wordt ingegaan op de voorwaarden waaronder Pareto efficiëntie wordt bereikt. In deze context wordt gekeken naar welvaartsmaximalisatie en sociale welvaartsfuncties. Het begrip Pareto efficiëntie wordt vergeleken met het begrip "eerlijke" verdeling. Besproken wordt de schending van Pareto efficiëntie door het ontbreken van markten in het geval van externaliteiten en publieke goederen. Monopolie is een marktstructuur waarin Pareto efficiëntie niet bereikt wordt. Gekeken

wordt naar de oorzaken van monopolie zoals het bestaan van een natuurlijk monopolie. Monopolisten kunnen hun positie gebruiken door prijsstrategieën als prijsdiscriminatie, two-part tariffs, en bundling uit te voeren. Een tussenvorm waarin bedrijven wel monopoliemacht hebben maar ook geconfronteerd worden met vrije toetreding van rivalen is monopolistische concurrentie. Deze marktvorm wordt gelinkt aan het begrip productdifferentiatie. Er bestaan verschillende modellen om oligopolistische markten te beschrijven. Deze verschillen hangen samen met de vraag of er in een markt price setting wordt toegepast, of dat juist het bepalen van capaciteit (hoeveelheid) de belangrijkste factor is, en of er sprake is van een marktleider, of dat bedrijven hun keuzen simultaan maken. In markten met oligopolie spelen ook strategische reacties een belangrijke rol, zoals de beslissing om al dan niet samen te werken, en toetreding te belemmeren. Speltheoretische methoden geven daarbij inzicht in verschillende aspecten van de strategie, waarbij de volgorde van keuze en het aantal perioden een rol spelen, en pure of gemengde strategieën kunnen worden toegepast. Met de komst van informatietechnologie zijn er veel nieuwe vormen ontstaan waarop producten door aanbieders worden aangeboden. In de IT sector werken verschillende producten vaak samen in een systeem (complementariteiten), en zijn netwerken belangrijk, waarbij het succes van een product kan staan of vallen met de omvang van het gebruikersnetwerk (netwerk externaliteiten). Een veiling is een allocatiemechanisme dat vele toepassingen kent, waaronder de veiling van radiofrequenties. Ook hierbij spelen speltheoretische aspecten een rol: wat is de beste strategie om te bieden, hoe kunnen de eigenschappen van het veilingstelsel leiden tot Pareto Efficiëntie of tot een hoge opbrengst voor de verkoper. Het begrip asymmetrische informatie komt aan de orde en er wordt besproken hoe asymmetrische informatie kan leiden tot falen van de markt. In het verlengde van asymmetrische informatie ligt het begrip moral hazard, en belangrijke toepassingen zijn er op het gebied van insurances en principal agent problemen. Bij principal agent problemen gaat het er om een geschikte contractvorm te vinden die het probleem van asymmetrische informatie en moral hazard in een principal-agent relatie oplost. In intertemporele beslissingsproblemen worden beslissingen van consumenten, en producenten gemodelleerd die zich uitstrekken over meerdere perioden. Voor een consumenten kan dat de beslissing zijn om te sparen en te lenen, en voor een producent de beslissing om te investeren in kapitaal. Maar ook individuen kunnen investeren, zoals bijvoorbeeld door te besluiten om te gaan studeren, zoals beschreven in de human capital theorie. Het begrip revealed preference wordt uitgelegd: hiermee wordt duidelijk dat het mogelijk is om op basis van waargenomen consumptiebundels de onderliggende preferenties (indifferentiecurven) te reconstrueren. Ook kan met het begrip revealed preference worden nagegaan of de waargenomen aankopen voldoen aan de veronderstellingen die in de theorie worden gemaakt.

### **Onderwijsvorm**

Hoorcolleges.

Instructiecolleges.

Werkcolleges

### **Toetsvorm**

Interim opdracht(en) – individuele beoordeling.

Tentamen met open vragen – individuele beoordeling.

### **Literatuur**

Hal R. Varian, "Intermediate Microeconomics", 9th edition.

Aanvullende artikelen: worden nader bekend gemaakt.

### Aanbevolen voorkennis

Microeconomics I, Quantitative Research Methods I en Quantitative Research Methods II.

## Mind and Machine

<b>Vakcode</b>	AB_1060 ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Aard- en Levenswetenschappen
<b>Coördinator</b>	dr. L.N. Cornelisse
<b>Examinator</b>	dr. L.N. Cornelisse
<b>Docent(en)</b>	dr. K. Linkenkaer Hansen, dr. L.N. Cornelisse
<b>Lesmethode(n)</b>	Computerpracticum, Werkgroep, Hoorcollege, Excursie
<b>Niveau</b>	300

### Doel vak

To provide students with a broad insight in the rapidly developing field of brain modelling, artificial intelligence, brain computer interfacing and machine learning.

Specifically, at the end of the course the student should be able to:

1. Describe the state-of-the-art in brain modeling, AI and BCI.
2. Evaluate current status of AI science and technology to predict future developments.
3. Explain the meaning of key concepts treated in the course. For example, what is a "mind", what is "artificial intelligence" and its different subtypes, what is "machine learning", what is "singularity", what is the difference between "brain-computer" and "computer-brain" interfaces, ...
4. Give examples of where key concepts are already applied (services or products).
5. Explain the principle of simulating neural systems and give examples of the different levels of detail that such models may incorporate.
6. Explain why researchers work with models that differ in the levels of details.
7. Understand the principles, and practical implementation of BCI.
8. Explain the relationship between brain activity and EEG signals, and how an EEG measurement is performed.
9. Explain the rationale behind neurofeedback therapy..
10. Improve an oral presentation of fellow students through constructive feedback.
11. Develop, present and defend a business proposal, i.e., an idea for a product or service that exploits state-of-the-art technological advances within the themes of the course, or advances that may be anticipated in the coming years.
12. Formulate opinion about the prospects of creating an artificial but intelligent brain.

### Inhoud vak

People have always been fascinated with the idea to create intelligent robots or to integrate computers in the brain to manipulate or enhance its performance. In this course, the current status in creating an artificial brain is discussed. Students learn the theory behind integrating brains and computers, and experience hands-on how brain activity can control computers to write or play computer games. To investigate how close science has come to science fiction students work in groups to prepare a business proposal in which they describe a new commercial application of artificial intelligence or brain computer interfacing. The technical aspects of the proposals are presented in a business pitch to a jury of (business) professionals to receive feedback for their final poster presentation.

### Onderwijsvorm

Lectures 40 hrs  
 Practicals 12 hrs  
 Business project 60 hrs

### Toetsvorm

Exam 50%  
 Business project 40%  
 Discussion 10%

Weighted average of exam and business project need to be 5.5 or higher to pass the course and cannot be compensated by the Discussion grade.

### Literatuur

To be decided

### Aanbevolen voorkennis

Two years of study at bachelor's level.

### Doelgroep

All students with an interest in the computational abilities of the brain

### Overige informatie

Part of minor Brain and Mind.

This minor course requires a minimum of 25 participants to take place.

Central Academic Skills:

Think out of the box: imagination may push basic science into applications and create business opportunities.

## Nature versus Nurture

<b>Vakcode</b>	AB_1057 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Aard- en Levenswetenschappen
<b>Coördinator</b>	dr. J.C. Polderman
<b>Examinator</b>	dr. J.C. Polderman
<b>Docent(en)</b>	dr. P. van Nierop, dr. J.C. Polderman
<b>Lesmethode(n)</b>	Practicum, Computerpracticum, Werkgroep, Hoorcollege

**Doel vak**

Students learn how individual differences in human complex behavior can be explained by genetic variation and environmental factors.

**Inhoud vak**

Human traits show considerable individual differences, which are due to differences in the individual's genes and/or the environment. In the Nature vs. Nurture course the influence of genes and the environment on human behavior will be discussed. Empirical evidence based on experiments with human subjects will guide these discussions. During the course many important topics from modern day society will be discussed, such as the influence of violent gaming on juvenile behavior, the role of parents in personality development of children, and the causes of mental disorders.

The genetic information contained in our DNA, represents the nature component that influences human behavior. An important aspect of the course is to show how research on genetic information is conducted. Students are introduced to various molecular biological techniques used to study the genome, such as DNA collection, isolation, and genotyping, and (statistical) methods to link variation in DNA to variation in behavior. The ultimate goal of this course is to understand the 'nature' and 'nurture' causes of individual differences in human cognitive and social behavior, and to be able to critically evaluate the nature-nurture debate.

**Onderwijsvorm**

Practicals (10%), lectures (80%), debates + workshop presenting (10%)

**Toetsvorm**

The final grade of Nature vs. Nurture is based on participation in debate sessions (5%), and the DNA practical (5%), and a written exam (90%). Of note: 55% of the written exam must be correct to obtain a final grade. Nature vs. Nurture is successfully completed with a final grade > 5.45.

**Literatuur**

Text book "Behavioral Genetics" 5th edition, by Plomin et al.

Scientific papers, TBA during course

**Vereiste voorkennis**

None

**Aanbevolen voorkennis**

Broad interest in brain, behavior, psychology, genetics and neuroscience

**Doelgroep**

Third year BSc students alpha and gamma topics (Sociology, Psychology, Economics, Law, Artificial Intelligence etc.) and students from Lifesciences (Biology, Physics, Chemistry, Medicine, Movement Science, Nutrition etc.) with a broad interest in neuroscience.

Students of Biomedical Sciences and Health and Life Sciences as well as students that plan to pursue a career in Neuroscience can follow the more specialised minor "Biomolecular/Neurosciences".



## Overige informatie

Guest lecturers:

MSc Tielbeek (VU-De Bascule)  
MSc van Doesum (VU-FPP)  
Dr. Lewis (University of London, UK)  
Dr. van Dongen (VU-FPP)  
Dr. Stringer (VU\_CNCR)  
Prof. Dr. Konijn (VU-Social Sciences)  
Prof. Dr. Van Straalen (VU-FALW)  
Prof. Dr. Schuengel (VU-FPP)

## Neuro- en Revalidatiepsychologie

<b>Vakcode</b>	B_NEURREVPSY (900502)
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. A. Ledebt
<b>Examinator</b>	dr. A. Ledebt
<b>Docent(en)</b>	dr. A. Ledebt, dr. J.F. Stins
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Na deze cursus kunnen studenten:

- Een overzicht geven van de neuropsychologische aspecten van gedrag en van de motorische problemen en hogerefunctiestoornissen na een hersenbeschadiging;
- Van enkele factoren (zoals motorische en perceptuele stimulatie en/of motorische oefening, aandacht en leeftijd) beschrijven welke invloed zij uitoefenen op de plasticiteit van de hersenen;
- Bij elk van de genoemde factoren interventies/onderzoeken beschrijven en verklaren wat het effect daarvan is op de revalidatie na een hersenbeschadiging.

### Inhoud vak

- In de; eerste colleges worden de gevolgen van hersenbeschadigingen voor de motoriek en "hogerefunctiestoornissen" (waarneming en cognitie) aan de orde gesteld. Voorts wordt ingegaan op de manier waarop de patiënt zich aan zijn handicap aanpast, via een veelvoud aan 'coping-processen';
- In de; andere colleges; wordt gepoogd een brug te slaan tussen de resultaten van experimenteel onderzoek en de praktijk van de revalidatie bij patiënten na een hersenbeschadiging. Daarvoor vormt het artikel van Robertson en Murre (1999) over 'guided recovery' de rode draad. Dit artikel, waarin revalidatie als een leerproces wordt opgevat, geeft een overzicht van de literatuur over factoren die het functieherstel beïnvloeden.

### Onderwijsvorm

De cursus bestaat uit hoorcolleges.

## Toetsvorm

Schriftelijk tentamen met open- eindvragen en meerkeuzevragen

## Literatuur

Losse artikelen. De literatuurlijst wordt tzt bekendgemaakt via BlackBoard en de Cursushandleiding

## New Venture Creation

<b>Vakcode</b>	E_BK3_NVC ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. A.C. Guldemond
<b>Examinator</b>	drs. A.C. Guldemond
<b>Docent(en)</b>	prof. dr. E. Masurel
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

## Doel vak

In this course knowledge provided in the Minor Entrepreneurship during Period 3.1: Foundations and Forms of Entrepreneurship and Strategic Management of Technology and Innovation and during Period 3.2: Entreprising Behavior and Filming Entrepreneurship will be applied to create a business plan for a start up venture (bridging theory and practice).

The student will first learn to systematically identify and evaluate entrepreneurial opportunities. A business opportunity is developed using the business model canvas. The student is able to use brainstorming and creativity in the process.

The student teams will test the business idea by collecting and analysing data to support the idea in the businessplan and validate a possible investment in the business (quantitative skills). As part of the validation of the idea the concepts of sustainability, valorisation and technology will be used to categorise and demonstrate the economic feasibility of the idea. A business plan presenting the business is the result of the course. This is critical for successfully introducing a knowledge-driven innovation to the market (Academic Skills)

The student cooperates with others in a team and presents and defends the business idea. Interviews and discussions with stakeholders of the business like investors, possible customers and partners gives insight in the context and validity of the idea. (social skills). The student will present the businessplan to a panel of experts and entrepreneurs and learn to judge and evaluate different business plans (bridging theory and practice). Reflection on the process of developing a plan at the end of the course will result in feedback on what the student learned, what choices he/she made and how he/she was learning in the group (self awareness).

The course will challenge the student to use the skills and knowledge from previous courses and experiences. The course expects the students to interact with professionals from the community of entrepreneurs and

business developers and society at large.

The following specific learning aims are defined:

1. Be able to develop a business plan using the business model canvas and lean startup method.
3. Be able to understand and apply creativeness in the development of a business idea
4. Be able to critically use data collection and analysis for practice-based ideas
5. Be able to apply the concepts of innovativeness, sustainability, valorization and technology.
6. Be able to thoroughly communicate the business plan in a presentation.
7. Be able to develop, give and receive constructive feedback on team behavior and a business plan.
8. Be able to reflect on team and individual behavior during a project

### **Inhoud vak**

What is a startup and what does the entrepreneur do and what characterizes good, structured and effective business development?

In this course students work to create a business plan to validate a business idea in an iterative process. During this process business- and entrepreneurial theories are used in a context specific application.

In order to invest in a plan (this investment can be time, energy, knowledge, network and money) an entrepreneur needs to constantly learn and reflect and put this experience in his business and his business plan. A start-up will iterate, get feedback and change course during its development. These iterations are part of the course where feedback from professionals and coaches are integrated.

Business model version 4.0 is presented by Prof Enno Masurel and used to create a valid strategy to connect the needs of the customer with the value proposition and the required resources. Also the aspects of competition and sustainability are researched and connected to the overall aim of the business. Students will use valorization of new technology and academic knowledge to bridge the gap between research and practice. In the course students are challenged to think of alternative forms of financing such as crowd funding, subsidies and business angels to finance the business.

As the investors expect the business to create a return on investment the students will generate market knowledge about the customer needs, the product market fit and the growth potential. To make the business plan ready for evaluation by investors and stakeholders Investment analysis is an essential part of the business plan development.

The students will present to a panel of experts, entrepreneurs and investors. They will give feedback with a market perspective and based on their experience.

### **Onderwijsvorm**

Lectures and tutorials.

### **Toetsvorm**

Written report (group assessment)

Personal reflection report and presentation (individual assessment)

## Literatuur

Required Reading:

- Sørensen, H. E. (2012). Business Development: A market-oriented perspective. West Sussex, United Kingdom: John Wiley & Sons Ltd.

Additional (required) materials will be announced via Blackboard.

## New Ways of Working

<b>Vakcode</b>	E_MM_NWW ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. M.H. Huysman
<b>Examinator</b>	prof. dr. M.H. Huysman
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege

### Doel vak

After completing the course, students will:

Understand how the properties of digital technologies require, as well as enable new approaches to working and organizing

Have knowledge of relevant theories of how working, coordinating, and managing in these new environments is different from traditional workplaces and critically reflect upon the underlying assumptions

Understand the interplay between technology and work practices and be able to analyze and demonstrate that interplay

Be able to apply academic insights to analyze and develop solutions for a real life case

### Inhoud vak

In this course we focus on the demands digital technologies put on organizations and society, and on how new ways of working and organizing help adapt to these challenges. Topics addressed in this course include, amongst others, how new ways of working (for example workers as digital nomads, expert systems as alternative for legal workers, or production done by 3d-printers) and new distributed and networked organizational forms (for example peer to peer communities or crowdsourcing) have advantages and disadvantages over traditional organizational practices and structures.

In addition to learning about these topics in interactive lectures, students will also be required to fulfill a number of assignments related to "real-life" challenges of new ways of working and organizing. The assignments are related to a particular organizational problem and will require students to apply theories discussed during the lecture to a particular case. These "hands-on" assignments are aimed to get a better understanding of the connection between theory and practice. With the assignments, students become academically prepared to understand and support the design, introduction and use of digital innovation and its implications for new ways of organizing and working in new distributed

environments.

### Onderwijsvorm

The course will consist of a combination of interactive lectures, guest lectures, seminars, and assignments. The lectures will also include a critical discussion of selected readings, stimulated by obligatory individual reflections on the literature. The seminars will be used to have students present, discuss, and further develop the assignments.

### Toetsvorm

Individual assignments and Group project assignment

### Literatuur

A selection of readings (mostly academic papers, but also book chapters and thoughtful business magazine articles) will be made available for download on Blackboard.

### Vereiste voorkennis

None

## Nieuwe religiositeit: Nederlands protestantisme na de Tweede Wereldoorlog

<b>Vakcode</b>	G_NWRELIG ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Godgeleerdheid
<b>Coördinator</b>	prof. dr. H.C. Stoffels
<b>Examinator</b>	prof. dr. H.C. Stoffels
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	200

### Doel vak

De student:

- kan beschrijven hoe het Nederlands protestantisme door de culturele revolutie van de jaren zestig qua karakter en betekenis is veranderd;
- kan beschrijven hoe en waarom binnen en het Nederlands protestantisme nieuwe vormen van religiositeit tot bloei zijn gekomen en wat hiervan de consequenties zijn;
- is in staat een brontekst of een belangrijke historische gebeurtenis/ontwikkeling te analyseren en voor de groep te presenteren.

### Inhoud vak

De module biedt een overzicht over de naoorlogse ontwikkelingen binnen het Nederlands protestantisme. Sinds de jaren '60 wordt zowel de publieke vormgeving van religie als de exploitatie ervan in het maatschappelijk middenveld uitgedaagd door nieuwe, deels uit Amerika geïmporteerde bewegingen en vormen van (evangelische, postmoderne) religiositeit, waarin individualisme, authenticiteit, geloofsbeleving en rituele vernieuwing centraal staan. Daarnaast hebben migranten uit alle delen van de wereld hun eigen, vaak charismatische kerkgemeenschappen gesticht. Het fenomeen protestantisme is hierdoor problematisch geworden, met consequenties voor de (historisch)-wetenschappelijke bestudering ervan.

### Onderwijsvorm

Hoor- en werkcolleges, leesverslagen, presentaties, zelfstandige literatuurstudie. Tijdens de colleges wordt telkens een bepaald thema behandeld, in combinatie met één of meer studentenopdrachten.

### Toetsvorm

Schriftelijk tentamen; leesverslagen.

### Literatuur

J.C. Kennedy, Nieuw Babylon in aanbouw. Nederland in de jaren zestig, Amsterdam: Boom 1995, (pp. 82-116).

H.C. Stoffels, 'Protestantisme'. In: M.B. ter Borg e.a. (red.), Handboek religie in Nederland. Zoetermeer: Meinema 2008 (pp. 122-145).

H.C. Stoffels, 'A Coat of Many Colours. New Immigrant Churches in the Netherlands.' In M.M. Jansen & H.C. Stoffels (Eds.), A. Moving God. - - Immigrant Churches in the Netherlands, Münster/ Berlin/ Zürich: LIT Verlag 2008 (pp. 13-29).

Nader op te geven literatuur.

### Overige informatie

De module maakt deel uit van de minor 'God in Nederland'.

## Nudge: Influencing Behavior

<b>Vakcode</b>	E_BK3_NIB ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. F. van Horen
<b>Examinator</b>	dr. F. van Horen
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Academic Skills: You will critically reflect on theoretical and practical value (/usability) of the concepts, theories and models offered in this course. Furthermore, the focus is on analyzing problems in organizations (/society) and applying knowledge (/searching for solutions) based on the theoretical models we discussed.

Research Skills: You develop the capacity to critically read and understand academic literature and to translate academic research to practically relevant outcomes.

Knowledge: You obtain knowledge on core subjects about influencing and nudging and gain deeper understanding of topics already discussed in "judgment and decision making".

Bridging theory and practice: You are challenged to apply theoretical knowledge in real-life situations.

### Inhoud vak

How can you improve the efficiency of towel and linen reuse programs in hotels (as these programs are beneficial for both the environment and the company)? Which adaptations in lay-out may increase consumer's inclination to pay for a "professional version" of a particular

software package instead of adopting the “free version”? Which incentives help consumers to eat healthier? How can people be motivated to prefer public transport to car travel?

These are some of the questions we may deal with in the current course: Nudging is the art of influencing people to change habits and make decisions that serve societal and/or commercial goals such as e.g. reducing the number of phone calls to helpdesks, cutting down on energy use, reducing pollution, stimulating healthy behavior, etc.

This course focuses on two different parts:

Part 1 deals with insights from the field of behavioral economics to improve choice architecture (i.e. different ways in which choices can be presented) to nudge people when taking decisions. Particular attention is devoted to the observation that choice architectures are often based on the assumption that we are logical and rational human beings whereas they should take into account how we really think and decide (often instinctive and irrational).

Part 2 has the focus on social influence. As human beings are “social animals” by nature, this type of influence often plays a major role in the (irrational) behavior of people (either as consumer, employee or citizen) and therefore need to be taken into account when setting up/ adapting particular choice architectures.

The focus in part 1 and 2 is both on theory building and application of the theoretical principles in practice.

Throughout the course, we will combine theoretical knowledge from the lectures with guest lectures as well as exercises which are focused on the application of knowledge to real-life cases.

### Onderwijsvorm

Lectures and small-group tutorials

### Toetsvorm

Individual exam – individual assessment  
(interim) assignment – group assessment

### Literatuur

tba

### Vereiste voorkennis

Judgment & Decision Making (course from same minor)

### Overige informatie

Part of this course builds on the course Judgment & Decision Making.

## Numerical Methods

<b>Vakcode</b>	E_EOR2_NUME ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. L.F. Hoogerheide
<b>Examinator</b>	dr. L.F. Hoogerheide
<b>Docent(en)</b>	dr. A.A.N. Ridder, dr. L.F. Hoogerheide
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep, Computerpracticum

<b>Niveau</b>	200
---------------	-----

### Doel vak

Acquainting the student with numerical methods and applications to econometric problems.

### Inhoud vak

Several methods will be discussed for solving numerical problems in econometrics. Topics include:

- floating point representation of numbers on computers
- numerical differentiation
- numerical integration: quadrature and Monte Carlo integration
- interpolation methods
- finding zeros of functions: bisection, Newton(-Raphson), Secant methods
- univariate optimization: golden section search.
- multivariate optimization: Newton(-Raphson) and BFGS with linesearch, Nelder-Mead. Differential Evolution.
- optimization under restrictions using transformations.
- using optimization methods to compute Maximum Likelihood estimators in non-Gaussian/non-linear econometric models
- Gaussian elimination with scaled partial pivoting.
- Power method for computing eigenvalues and eigenvectors.
- Monte Carlo simulation methods

### Onderwijsvorm

Classes and computer practicals.

### Toetsvorm

Intermediate exam – Individual assessment  
 Final exam – Individual assessment  
 Individual assignment - Individual assessment

### Literatuur

Cheney & Kincaid (2012), Numerical Mathematics and Computing. 7th edition.

### Aanbevolen voorkennis

Programming, Linear Algebra, Analysis II.

## Operations Analysis

<b>Vakcode</b>	E_EOR3_OA ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. R. Roberti
<b>Examinator</b>	dr. R. Roberti
<b>Lesmethode(n)</b>	Hoorcollege, Instructiecollege
<b>Niveau</b>	200

### Doel vak



Upon completion of this course, the students will have learned the following.

**Academic:**

To analyze and solve operations management problems through a variety of models and concepts.

**Professional skills and quantitative methods**

To apply tools to direct, design, deliver and develop processes, products and services using quantitative decision models

**Social**

To analyze and develop solutions for stylized case problems in teams

**Link to practice**

To relate to the practice of analyzing and managing processes and operations through guest lectures from professionals

**Inhoud vak**

Operations management is the process of managing people and resources to create a product or a service. This course provides the student with analytical and quantitative methods to support the operations function and the decision making process in an organization. We will focus on a number of topics at a strategic, tactical and operational level that are in reality closely related. We will analyze and solve key issues arising in operations management, such as facility layout and location, aggregate planning, project scheduling, operations scheduling and controlling. We will also investigate the applicability of the studied techniques by developing solutions for case studies and through guest lectures from practitioners.

**Onderwijsvorm**

Lectures and Tutorials

**Toetsvorm**

Written exam – individual assessment

Case assignment – team assessment

**Literatuur**

Nahmias, S. (2013). Production and Operations Analysis, McGraw-Hill

A selection of additional papers that will be made available via blackboard

## Operations Research I

<b>Vakcode</b>	E_EOR2_OR1 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. L. Stougie
<b>Examinator</b>	prof. dr. L. Stougie
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

**Doel vak**

An introduction into optimization, and in particular deterministic optimization. One aim is to learn how to model a practical optimization problem into the appropriate mathematical formulation. The other is to

learn the theory and application of solution methods for general classes of optimization problems.

### **Inhoud vak**

This is an introductory course in deterministic optimization. The optimization models studied are unconstrained non-linear optimization, constrained linear optimization, convex optimization, linear optimization and integer linear optimization. Solution techniques for these classes of optimization problems are the central theme of this course. Another important element of the course is the mathematical formulation of (practical) verbally described problems as instances of the optimization models, and application of the solution methods to solve the resulting problems.

### **Onderwijsvorm**

Combined lectures and tutorials.

### **Toetsvorm**

Intermediate exam – Individual assessment

Final exam – Individual assessment

### **Literatuur**

H.A. Taha: Operations Research: An Introduction, International Edition, 9th Ed., 2011, Pearson.

### **Aanbevolen voorkennis**

Analysis, Linear Algebra

### **Overige informatie**

The course is suitable to be taken in an exchange program.

## Operations Research II

<b>Vakcode</b>	E_EOR2_OR2 ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. A.A.N. Ridder
<b>Examinator</b>	dr. A.A.N. Ridder
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

### **Doel vak**

To be introduced to the theory of stochastic processes and models that are important in EOR practice. To learn modeling techniques for translating an EOR problem into an appropriate stochastic model. To learn how to apply optimization and simulation techniques for performance analysis of stochastic systems.

### **Inhoud vak**

This is an introductory course in stochastic models. It builds upon the basic course in probability theory and extends the theory of static probability to dynamic stochastic processes. The course focuses on Poisson process, discrete-time and continuous-time Markov chains, with

applications to queueing models, risk analysis, reliability problems, and option pricing. It also discusses dynamic optimization and stochastic simulation of these systems.

### Onderwijsvorm

Combined lectures and tutorials.

### Toetsvorm

1. Individual assignment. 2. Midterm exam. 3. Final exam.

### Literatuur

K. Borovkov: Elements of Stochastic Modeling, 2nd Ed., 2014, World Scientific.

### Vereiste voorkennis

Introductory courses on Probability Theory and Statistics

### Aanbevolen voorkennis

Courses in Mathematical Analysis, Discrete Mathematics, Linear Algebra.

### Doelgroep

Junior/Senior undergraduates in Applied Mathematics (e.g. Econometrics and Operations Research)

### Overige informatie

The course is suitable to be taken in an exchange program.

## Operations Research III

<b>Vakcode</b>	E_EOR3_OR3 ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. N.K. Olver
<b>Examinator</b>	dr. N.K. Olver
<b>Docent(en)</b>	dr. ir. R.A. Sitters, dr. N.K. Olver
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

A student who successfully completes the course will have an understanding of the techniques of combinatorial optimization and integer programming, and be ready to apply them to problems encountered in practice.

### Inhoud vak

- \* The notion of efficiency in algorithms; distinguishing between tractable and computationally "hard" problems.
- \* The correctness and efficiency of key algorithms in combinatorial optimization will be shown rigorously. Problems studied will include: minimum spanning tree, maximum flow, minimum cost flow, and matching.
- \* Formulation of problems as integer programs; the notion of the strength of a formulation; the central role of integral formulations.
- \* The main techniques and theory used in commercial integer programming

solvers such as CPLEX and Gurobi will be investigated in detail. This will include cutting plane techniques, branch and bound, and branch and cut.

\* Column generation, Lagrangian relaxation, modelling of disjunctions, and other problem-tailored techniques will be discussed.

\* Experience in the use of commercial solvers will be gained.

### Onderwijsvorm

4 hours per week of lectures, 2 hours per week discussing theoretical exercises, and 2 hours per week working on problems with the aid of software tools in a computer lab.

### Toetsvorm

Project – group assessment

Final exam – Individual assessment

### Literatuur

Conforti, Cornuejols & Zambelli, Integer Programming (2014)

Cook, Cunningham, Pulleyblank & Schrijver, Combinatorial Optimization (1997)

NB: Electronic access to both books is available through the library.

### Vereiste voorkennis

Linear Algebra

Operations Research I

### Overige informatie

The course is suitable to be taken in an exchange program.

## Organization Politics

<b>Vakcode</b>	S_OP ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. ir. F.K. Boersma
<b>Examinator</b>	dr. ir. F.K. Boersma
<b>Docent(en)</b>	dr. ir. F.K. Boersma
<b>Lesmethode(n)</b>	Werkgroep
<b>Niveau</b>	300

### Doel vak

Students participating in Organizational Politics are familiarized with the relevant disciplinary perspectives within the current debates in the field of cultural approaches in organization studies. This subject provides students with an opportunity to:

1. Learn about the centrality of power and politics in the field of organization studies;
2. Research and evaluate critically practices of power;
3. Become adept at theorizing power. They will do this through:
  - Mastering the theory of power and its application to organizations
  - Developing an ability to diagnose and analyse power and policies
  - Coming to terms with the inherent dilemmas and choices involved in developing and exercising power.

**Inhoud vak**

- Knowledge of power processes in relation to culture in organizations;
- Application of social scientific perspectives and theories on power in organizations;
- The management and use of power as well as unintentional and latent aspects of power;
- Analysis of academic texts, and the application of theoretical debates to case studies, group discussions reflecting on the connection between theory and the practical manifestations of power in organizational settings.

**Onderwijsvorm**

Lecture

**Toetsvorm**

Written examination (paper)

**Literatuur**

Articles: to be announced

**Doelgroep**

Students who are interested in:

1. Classic and current models of power used and applied in organization and management theory;
2. The types of arguments and evidence used to justify and elaborate different types of theorizing, research and writing practices;
3. The centrality of the management of power and resistance to organizational reality.

## Organizational Behavior and Decision Making

<b>Vakcode</b>	E_EBE3_OBDM ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. D.A. Driver-Zwartkruis
<b>Examinator</b>	dr. D.A. Driver-Zwartkruis
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

Academic Skills: Students will be able to understand complex organizational problems, identify the gap in theory and practice via interactive lectures, and mapping exercises. And thereby, apply the Harvard Methodology for preparing an academic case study report.

Knowledge: Students will be introduced to the theories and concepts of the study of Organizational Behavior and Decision Making.

Bridging Research and Practice: Students will select a current business case from the media (relevant newspaper article) and apply related theory and concepts to problems in the actual business case.

Social Skills: Students will work in teams and prepare a case study report, and they will prepare a presentation of their case study report.

Self Awareness: Students will be required to provide their reaction to the study curriculum and explain how this impacted their personal development.

### **Inhoud vak**

In this course an examination of the human factor in an organizational context is presented. The course includes an introduction to relevant theories and concepts that can be applied in actual practice.

Therefore, students will:

- 1) acquire a basic understanding of the role of teams and groups in contemporary organizations;
- 2) understand the importance of ethics;
- 3) appreciate the significance of leadership and culture for organizational effectiveness. Attention will also be given to workplace diversity;
- 4) acquire a basic understanding of heuristics and biases in decision making processes.

Thus, social behavior in an organizational context will be analyzed at the individual, group and organizational levels.

### **Onderwijsvorm**

Lectures.

Tutorials.

### **Toetsvorm**

Examination - individual assessment.

Case study report.

### **Literatuur**

Literature will be posted on Blackboard.

### **Vereiste voorkennis**

None.

## **Organizational Discourse and Narrative Analysis**

<b>Vakcode</b>	S_ODNA ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	D.E. Bovenberg
<b>Examinator</b>	D.E. Bovenberg
<b>Lesmethode(n)</b>	Werkcollege
<b>Niveau</b>	300

### **Doel vak**

The aims of this course can be formulated as follows:

- Enhance knowledge of different approaches to discourse and narrative analysis.
- Enhance knowledge of the importance of discourse and narrative

analysis for the field or organizational studies.

- Acquire practical experiences with (organizational) discourse and narrative analysis.
- Stimulate critical reflection on the (im)possibilities of the use of organizational discourse and narrative analysis.

After the course, you will be able to recognize different theoretical approaches to organizational discourse and the underlying philosophical premises of these approaches. You are able to critically reflect on the strengths and weaknesses of particular approaches and examples of empirical studies. Furthermore, after completion of this course you will be able to recognize and critically elaborate the use of rhetorical and discursive strategies in current societal and organizational situations.

### **Inhoud vak**

The course focuses on processes of collecting, representing, and analysing organizational discourses and narratives. Organizations consist of people who on a daily basis are engaged in sense-making, meaning attribution processes concerning the structures they work in, the tasks they perform, their identities (within and outside the organisation) and their relations with their colleagues. The basic premise of discourse and narrative analysis is that language is a form of social behaviour that plays an important role in the way social identities and relations are constructed and (re-)produced. The objects of discourse and narrative analysis are patterns in language behaviour as well as changes in these patterns. Attention will be paid to different approaches in discourse and narrative analysis. Some approaches focus on the actor as a (co-)producer of discourses and narratives. Other approaches focus on structure, i.e., the language user as a 'reproducer' or even 'prisoner' of certain discourses and narratives. During the lectures attention will be paid to the philosophical underpinnings of social scientific approaches to organization studies in general and of interpretive approaches in specific. A range of different theoretical approaches to organizational discourse and narratives will be discussed, as well as examples of current empirical studies from this field. Students in the course will also be asked to actively engage in discussions of cases, to collect and analyze texts from different sources - including newspaper articles, promotional material and video material - themselves.

### **Onderwijsvorm**

Lectures

### **Toetsvorm**

Essay

### **Literatuur**

To be announced

### **Doelgroep**

Students Minor Organizational Culture, exchange students

## **Organizing Sustainable Innovation**

<b>Vakcode</b>	E_IBA3_OSI ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0

<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. P.R. Tuertscher
<b>Examinator</b>	dr. P.R. Tuertscher
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

Academic skills: ability to critically evaluate innovations and innovation approaches from the perspective of sustainability  
Knowledge: theoretical understanding of the management of innovation processes and understanding of specific challenges and approaches for developing and adopting sustainable innovations  
Bridging Theory and Practice: developing skills for applying creative and analytical methods for new product, service, and business model development  
Social Skills: working in teams for idea development

### Inhoud vak

This course concerns the development and commercialization of sustainable innovations. Organizing for sustainable innovation implies a shift away from a reactive approach (i.e. organizations responding to economic, societal and regulatory pressure) to a pro-active system oriented approach: by relying on creativity and a systematic (re)design of their business processes and interaction with stakeholders, organizations are now developing innovative products, services and business models that have sustainability at their core. Organizing for sustainable innovation involves many of the general processes and methods for the development of new products and services, yet also offers particular challenges and approaches, which this course addresses by building upon the stakeholder perspective developed in the earlier courses.

The following topics will be covered:

- Innovation management for sustainability, including innovation in an ecosystem of stakeholders; types of innovation (incremental/radical; product, service, process and business model innovation); innovation processes;
- The business case for sustainability, including why sustainability can be framed as an opportunity (as opposed to a threat or disruption to current business), potential pitfalls and how these can be surmounted
- Templates and principles for sustainable innovation, including key approaches (e.g. circular business model, product servitization, base of the pyramid) and how they can be facilitated by digital technologies and innovative financing
- Developing ideas for sustainable innovation, including creativity and opportunity identification, and specific sustainability oriented approaches such as frugal innovation and reverse innovation
- The development of ideas into products, including co-creation with users and other stakeholders, design for sustainability, impact assessment, and the role of digitalization and dematerialization.
- Embedding sustainable innovations in value networks, including the important role that various stakeholders (e.g. suppliers, competitors, regulators, consumers) play in stimulating or inhibiting the adoption of sustainable innovations such as renewable energy.



**Onderwijsvorm**

Lectures  
Tutorials

**Toetsvorm**

Individual assessments  
Group assessment

**Literatuur**

Collection of academic articles (will be announced on blackboard).

**Aanbevolen voorkennis**

First two courses of the minor program "Sustainability and innovation."

**Partiële Differentiaalvergelijkingen**

<b>Vakcode</b>	X_400163 (400163)
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	prof. dr. J. Hulshof
<b>Examinator</b>	prof. dr. J. Hulshof
<b>Docent(en)</b>	prof. dr. J. Hulshof
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

**Doel vak**

The majority of physical phenomena can be described by partial differential equations. This module discusses these equations and methods for their solution. For first order equations we discuss the method of characteristics and the solution by methods of ordinary differential equations. For second order equations, in particular for the heat and wave equation we discuss the method of separation of variables. This ties in with the remarkable result of Fourier that almost any periodic function can be represented as a sum of sines and cosines, called its Fourier series. An analogous representation for non-periodic functions is provided by the Fourier transform, to be discussed briefly in part 2, as well as some theoretical background for Fourier series. In Part 2 we discuss some of the background for generalised Fourier series: the role of eigenvalue problems and some basic spectral theory. Potential methods and fundamental solutions will be discussed for the standard examples: heat, wave and Poisson equation. Harmonic functions will be discussed in relation to mean value properties.

**Inhoud vak**

Part 1: - Classical examples - First order equations and characteristics  
- d'Alembert's solution for the wave equation - Separation of variables for second order equations - Fourier Series - Fundamental solutions for heat and wave equation in one spatial dimension - The Dirac delta-function.  
Part 2 - Fourier theory - Laplace and Poisson equation through potential methods - Eigenvalue problems and some spectral theory - Special

functions (Bessel functions) - Harmonic functions - Fundamental solutions in 2 and 3 spatial dimensions

### Onderwijsvorm

Course and exercise class

### Toetsvorm

Two written exams and incidental homework

### Literatuur

Peter J. Olver, "Introduction to Partial Differential Equations". Springer-Verlag, New York, 2014. ISBN 978-3-319-02099-0

### Aanbevolen voorkennis

Calculus, in particular vectorcalculus, Gauss divergence Theorem and Green's formulas

### Doelgroep

3W, 3W-B, 3WN

## Philosophy of Mind

<b>Vakcode</b>	W_BA_PHOM ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. L.D. Derksen
<b>Examinator</b>	dr. L.D. Derksen
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

De student:

- krijgt inzicht in de verschillende manieren waarop over emoties wordt gedacht in de hedendaagse filosofie;
- oefent vaardigheden zoals het presenteren van een opdracht en het leiden van de discussie daarover

### Inhoud vak

Het doel van dit vak is om een centraal thema in de philosophy of mind aan de orde te stellen. Op dit college wordt een aantal 20e eeuwse teksten gelezen die handelen over filosofie van de emoties. Wij lezen teksten op het gebied van filosofie van de emoties van onder andere William James, Jean-Paul Sartre, Robert Solomon, Martha Nussbaum en Frans de Waal. Deze denkers hebben verschillende meningen over de aard en oorsprong van emoties, de cognitieve inhoud van emoties, het verband tussen emotie, persoonlijkheid en omringende werkelijkheid en de functie van emotie in het menselijke bestaan. Ook de theoretische invalshoek voor het bespreken van emoties verschilt onderling bij deze auteurs: James benadrukt de lichamelijke oorsprong van emoties, Sartre de manier waarop emoties verbonden zijn met betekenis en betekenisgeving, Solomon de verhouding rede en emotie, Nussbaum het belang van emoties in een volwaardig menselijk bestaan en De Waal de oorsprong van emoties in evolutionaire continuïteit.

## Onderwijsvorm

Hoor- en werkcollege

## Toetsvorm

Presentatie (20%), schriftelijk tentamen (80%).

## Literatuur

William James, *The Principles of Psychology*, deel II, hoofdstuk 25, "The Emotions". Cambridge, Harvard University Press, 1981. Verkrijgbaar bij de UBVU. Jean-Paul Sartre, *Magie en emotie*. Amsterdam, Boom, 2009 (herdruk). Robert Solomon, *Not Passion's Slave. Emotions and Choice*. Oxford, Oxford University Press, 2003. Dit boek is digitaal verkrijgbaar via de UBVU, Oxford Scholarship Online, 2003. We lezen hoofdstuk 6 en 7. Martha Nussbaum, *Upheavals of Thought. The Intelligence of Emotions*. Cambridge, Cambridge University Press, 2001. We lezen deel I en de inleidingen van deel II en III. Frans de Waal, "What is an animal emotion?" in: *Annals of the New York Academy of Sciences* 1224 (2011), p. 191-206. Verkrijgbaar als elektronische publicatie bij de UBVU. Frans de Waal, *The Age of Empathy*. London, Souvenir Press, 2009. We lezen hoofdstuk 4. Verkrijgbaar bij de UBVU.

## Vereiste voorkennis

Afronding van het eerste Bachelor jaar van de opleiding wijsbegeerte. Studenten uit andere studierichtingen moeten blij kunnen geven van enige filosofische voorkennis, b.v. door het hebben gevolgd van een college wijsgerige vorming.

## Aanbevolen voorkennis

Voor studenten uit andere studierichtingen filosofische voorkennis.

## Doelgroep

Premaster studenten wijsbegeerte, minor studenten wijsbegeerte.

## Overige informatie

Voor meer informatie, zie t.z.t. de studiehandleiding van dit vak.

## Principles of Bioinformatics

<b>Vakcode</b>	X_401094 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. S. Abeln
<b>Examinator</b>	dr. S. Abeln
<b>Docent(en)</b>	dr. S. Abeln, prof. dr. J. Heringa
<b>Lesmethode(n)</b>	Hoorcollege, Practicum, Computerpracticum
<b>Niveau</b>	300

## Doel vak

Are you interested in bioinformatics? Would you like know how huge amounts of data can be analysed in order to discover new biology? Would you like to solve open questions in scientific research?

This course is open for any Bachelor student in a Science Degree

(including Biology or Biochemistry).

Principles of Bioinformatics is the starting course for bioinformatics at an Academic level. It aims to give a broad overview of important topics relevant to the field, with a focus on current (open) problems in bioinformatics research.

During the lectures and practical sessions you will become familiar with practical solutions, but also discover that there is still a lot of room for improvement in this rapidly advancing field of research.

Goals:

- To make the students aware of gaps in their own background knowledge.
- The student will be aware of the major issues, methodology and available algorithms in bioinformatics.
- To work together in a group of diverse backgrounds.
- To gain hands-on experience in scripting and handling basic mathematical equations as a means of solving bioinformatics problems.
- To develop a basic understanding of major concepts in genomics and molecular cell biology or to develop a basic scripting skills in python that are relevant to current topics in bioinformatics

### **Inhoud vak**

Theory:

- Evolution, Genomes, Sequences, Biomolecular Structure, Biological Databases BLAST & PSI-BLAST, Protein domains & evolution, Next Generation Sequencing (NGS) or Massively Parallel Sequencing (MPS) and analysis

Practical:

There are six practicals that aim to show you both existing solutions as well as open problems within the field of Bioinformatics. Half of the practicals are web-based: you use existing databases and (web-server) solutions to solve biological problems. In the remaining practicals you will use python scripts to automate queries to databases and web servers to investigate the value of current Bioinformatics Algorithms.

- Gene Ontology Database (GO) (python scripts)
- Homology Searching (web-based)
- BLAST / PSI-BLAST (python scripts)
- Benchmarking (python scripts)
- NGS (web-based)
- Network analysis

### **Onderwijsvorm**

- 10 Lectures (two hour lecture in the morning, two days per week)
- 12 Project practicals (two hour sessions following the morning lectures, two days per week), partially supervised.
- 12 optional conversion classes in biology (four hour sessions on Friday at the UvA) or python scripting (two hour sessions in the afternoon at the VU)

### **Toetsvorm**

- [50%] Project (group work)
- [50%] Oral or written exam (depending on number of course students) to assess: exercises, topics covered by the project and lecture topics

## Literatuur

- Course material (slides, scientific papers) on [bb.vu.nl](http://bb.vu.nl)
- Essential Bioinformatics methods are covered by the following books:
- Essential Bioinformatics, Jin Xiong, Cambridge University Press, ISBN978-0-521-60082-8 (this is a very basic book, for BSc level only)
  - Marketa Zvelebil and Jeremy O. Baum Understanding Bioinformatics Garland Science 2008 ISBN-10: 0-8153-4024-9 (if you are planning to take any further courses in bioinformatics, we would advise you to get this book)

## Aanbevolen voorkennis

An interest in programming and biological problems.

## Doelgroep

3CS, 3IMM, 3LI and:  
3BIO, 3MNW, 3BMW, 3FAR

## Overige informatie

This course is part of the Minor Bioinformatics and Systems Biology

This course is open for any Bachelor student in a Science Degree (including Biology or Biochemistry).

## Probability Theory

<b>Vakcode</b>	E_EOR1_PT ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. D.A. van der Laan
<b>Examinator</b>	dr. D.A. van der Laan
<b>Docent(en)</b>	prof. dr. B.F. Heidergott, dr. D.A. van der Laan, M. van Ee MSc
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	100

## Doel vak

Het beheersen en kunnen toepassen van de elementaire begrippen uit de kansrekening en meest gebruikte kansverdelingen in praktische problemen.

## Inhoud vak

Het wiskundige fundament voor zowel het modelleren van beslissen onder onzekerheid als het uitvoeren van statistiek is de kansrekening en de kansrekening heeft daarom een centrale rol in de bachelor Econometrie en Operations Research.

De opbouw van deze cursus is als volgt.

- Basiselementen van de waarschijnlijkheidsrekening (toevalsexperiment, uitkomstenruimte, eventualiteit en kansmaat) en fundamentele rekenregels voor kansen op eventualiteiten. Combinatorische kansmodellen, voorwaardelijke kansen, de regel van Bayes, en de wet van de totale waarschijnlijkheid.
- Introductie van het concept van een stochastische variabele, en begrippen zoals verdelingsfunctie, kansmassafunctie, verwachting en

variantie van een stochastische variabele.

- Specifieke discrete kansverdelingen, zoals bijvoorbeeld de binomiale, hypergeometrische, Poisson, en geometrische verdeling.
- Continue stochastische variabelen en bijbehorende kansverdelingen. Specifieke continue kansverdelingen zoals de uniforme, normale, exponentiele en gamma verdeling. Relaties tussen deze continue kansverdelingen en de al eerder ingevoerde discrete kansverdelingen worden besproken.
- Indien er voldoende tijd is worden aan het eind van de cursus de begrippen bivariate en multivariate kansverdeling uitgelegd inclusief daarmee samenhangende begrippen zoals gezamenlijke en marginale verdelingsfuncties, conditionele kansverdeling en onafhankelijkheid van stochastische variabelen.

### Onderwijsvorm

Hoorcollege 2x2u per week, practicum 1x2u per week.

### Toetsvorm

Tussententamen -individuele beoordeling

Tentamen - individuele beoordeling

Individuele opdracht - individuele beoordeling

### Literatuur

Auteur: Saeed Ghahramani; Titel: Fundamentals of Probability (with stochastic processes); Uitgave: Third Edition; Jaar van uitgave: 2016; Uitgever: CRC Press, Taylor&Francis Group; ISBN: 9781498755016.

### Aanbevolen voorkennis

Actieve beheersing van de VWO wiskunde.

### Overige informatie

Tijdens deze cursus wordt beroep gedaan op kennis die tijdens de gelijktijdige cursus Analysis I wordt opgedaan.

## Procurement and Supply Management

<b>Vakcode</b>	E_IBK3_PSM ()
<b>Periode</b>	Periode 4
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. R. Roberti
<b>Examinator</b>	dr. R. Roberti
<b>Docent(en)</b>	dr. R. Roberti
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

All organisations need inputs of goods and services from external suppliers or services providers. In this course we examine the developing role of the purchasing and supply function in managing and shipping inputs and outputs of companies, and address the ways in which the activity can contribute to the efficiency and effectiveness of an organisation.

Purchasing is seen by many of today's successful organisations as an

activity of considerable strategic importance. The fact that the strategic role and contribution of purchasing and supply is well recognised in many leading commercial concerns and public institutions has meant that the strategic purchasing decisions may be taken by purchasing involvement at board level, rather than by a departmental manager. The ramifications of purchasing decisions on the operational processes may also be significant. Quantity discounts or optimal choice of transport may for example lead to gains in direct procurement expenses, but they may increase other cost in the supply chain (such as inventory). Such costs need to be traded off.

Students learn how to classify, describe and analyse key procurement and supply decisions (learning objective “academic skills”) in order to understand the role of procurement and supply management in organisations (learning objective “knowledge”). Students learn how to understand, analyse and quantify trade-offs in procurement and supply decisions and to identify effects of procurement and supply decisions on supply chain performance (learning objective “quantitative skills”). Students apply results from academic research in practical case settings (learning objective “bridging theory and practice”) and critically reflect on the research (learning objective “research skills”). Students present their case findings (learning objective “social skills”).

### **Inhoud vak**

In this course we aim to discuss the management of purchasing, transport and supply activities. More specifically we aim at lecturing the following topics:

- sourcing strategies
- outsourcing and supply risk management
- public sector procurement
- transport procurement
- managing inventory
- contracting
- the structure of freight transport cost
- freight transport demand
- value of time and reliability; modal choice and route choice
- urban transport systems: congestion and reliability
- environmental effects of transport and corporate responsibility
- transport policy at local, national and EU levels

### **Onderwijsvorm**

Lectures  
Tutorials

### **Toetsvorm**

Written exam – Individual assessment  
(Interim) Assignment(s) – Group assessment

### **Literatuur**

Literature: to be announced

### **Aanbevolen voorkennis**

For BK

1.1 Business Processes; 1.1 Business Mathematics; 1.4 Supply Chain Management I; 2.4 Supply Chain Management II; 3.4 Managing and improving quality

For IBA:

1.1 Business Mathematics; 1.4 Global Supply Chain Management; 1.6

## Psychophysio and Cogn. Applications (UM)

<b>Vakcode</b>	P_UPCAPP ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. ing. E. van der Burg
<b>Examinator</b>	dr. ing. E. van der Burg
<b>Docent(en)</b>	dr. ing. E. van der Burg, prof. dr. J.C.N. de Geus
<b>Lesmethode(n)</b>	Hoorcollege, Practicum
<b>Niveau</b>	300

### Doel vak

- Insight in the link between affective state and autonomic nervous system activity.
- Insight in the link between cognitive state and eye-movement, psychophysics and reaction time metrics.
- Knowledge of typical experimental approaches and research designs in psychophysiology and cognitive psychology.
- Practical skills in the laboratory measurement of autonomic nervous system activity, eye-movement, psychophysics and reaction time as windows into affective and cognitive processing in the brain.

### Inhoud vak

In plenary lectures we will outline how affective and cognitive processing is reflected in observable behavioral and physiological signals. The lectures are interspersed with a series of practicals, where the students learn how to record the ElectroCardioGram (ECG), Skin-conductance Level (SCL), eye movements, psychophysics and reaction times in experimental designs aimed at isolating specific affective and cognitive processes. This will be done in a standardized laboratory setting using the Biopac system for ECG/SCL and the Eyelink system to measure the different aspects of eye movements. Amongst others, students will measure (on each other): skin-conductance responses to tonic and phasic emotional stimuli; eye-movements and reaction times when performing a xx task. Furthermore, tactile sensitivity will be measured by using a psychophysical approach. The main principles, strategies and limitations for data analysis will be covered in the lectures and then applied in the practicals to the self-recorded data-sets. Finally, we will visit the Dutch organization for applied research TNO) in order to get acquainted with the typical approaches and research designs in applied settings.

### Onderwijsvorm

Lectures and practicals

### Toetsvorm

Written examination (50% of grade) of literature and execution of a short data collection experiment (20%) and the signal analysis on the data collected (30%).



## Literatuur

- 1) Psychophysiology Reader with selected articles
    - a) paper on SCL recording
    - b) paper on HR recording
    - c) paper illustrating the use of HR/SCL in practice (likely Critchley or Damasio)
  - 2) Cognitive Psychology Reader with selected articles
    - d) paper on psychophysics
    - e) paper on Eye movement recording (Van der Stighele, Meeter and Theeuwes, 2006)
    - f) paper illustrating the use of Eye-movement recording or psychophysics in research
  - 3) Powerpoints of the lectures
- More information on BlackBoard

## Overige informatie

Course registration must be completed before November 1, as sufficient assistance and rooms for practicals need to be organized up front.

## Radicalization and Conflict

<b>Vakcode</b>	S_RC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	prof. dr. J. van Stekelenburg
<b>Examinator</b>	prof. dr. J. van Stekelenburg
<b>Docent(en)</b>	prof. dr. J. van Stekelenburg
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

## Doel vak

Students have insight into processes of polarization and radicalization based on cultural and religious social identities. They understand how group processes and institutional and cultural dynamics shape cultural conflicts between social groups.

## Inhoud vak

Ethnic and religious identities have increasingly become a focal point of social conflict. Ranging from interpersonal discrimination and group conflicts to demonstrations, riots, and terrorism, cultural identities seem to have radicalized, both among native and migrant groups. They have become a major concern for various policy makers. How has cultural identity become so politicized? And is it really a sign of this time? What for instance about the Spanish separatist movement ETA, or the Irish IRA opposing British rule in Ireland? This course analyzes contemporary Western polarization and radicalization and compares it to more historical and non-western episodes of radical conflict. What happens at the individual and group level? And how does the institutional and cultural dynamics in society help shape and prevent religious and cultural conflicts between groups?

**Onderwijsvorm**

Lectures

**Toetsvorm**

Examination.

**Literatuur**

To be announced

**Doelgroep**

Bachelor students, exchange students

**Overige informatie**

This course is part of the minor Frontiers of Multicultural Societies

## Representatietheorie

<b>Vakcode</b>	XBU_417004 ()
<b>Periode</b>	Periode 1+2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	400

**Inhoud vak**

<http://studiegids.uva.nl/xmlpages/page/2016-2017/zoek-vak/vak/24960>

**Doelgroep**

3W

**Overige informatie**

Dit vak wordt aangeboden op de UvA. Voor meer informatie verwijzen we je naar: FNWI Education Service Centre, Science Park 904, servicedesk-esc-science@uva.nl, +31 (0)20 525 7100.

Inschrijving via <https://m.sis.uva.nl/vakaanmelden> is verplicht.

## Research Assistantship Honours Course

<b>Vakcode</b>	E_HP2_RASS (986135)
<b>Periode</b>	Ac. Jaar (september)
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. H.E.D. Houba
<b>Examinator</b>	dr. H.E.D. Houba

**Doel vak**

The primary purpose of the Research Assistantship (RA) is to gain first-hand research experience and enhance students' research skills. It entails a tutored research project at one of the research groups at FEWEB, which may be part of a larger research project/program of the group in which the student participates or may be set up as a separate

project specifically for the RA-ship.

### **Inhoud vak**

FEWEB HP students in their 3rd bachelor year can choose to substitute one of their elective courses for a high-quality RA. It entails a tutored research project at one of the research groups at FEWEB, which may be part of a larger research project/program of the group in which the student participates or may be set up as a separate project specifically for the RA-ship. Two general formats can be chosen to set up the RA-ship:

- (1) as an independent component of the honours program (6 credits),
- (2) a study combined with the BSc thesis, which allows to develop a research project of larger scale and/or scope (12 + 6 credits).

Option 2 seems the ideal way to combine the regular BSc thesis work with a more in-depth empirical study than is usually the case for the thesis.

The RA allows students to build on their skills developed during the programme and, if combined with the BSc thesis, to extend this into a more complete research experience. Research in this description should be considered in a broad sense, and can involve different stages of research and different research methods. Although typically the RA will include an empirical research component, it may also involve extended literature research. Naturally, this should be reflected in the project design and criteria used for evaluation of the process and output.

Key for the evaluation of the RA is the provision of an independent piece of research output in the form of a research paper. The quality of the paper should be such that it can be graded and preferably be submitted to an academic conference or perhaps even to an academic journal. This paper can be complemented with other relevant project output as part of the evaluation such as databases, measurement instruments and reference list. These elements may also be part of the evaluation and grading of the project. The form of the RA that is chosen is an important determinant of the expected output and a major factor in the evaluation process. In case of option 1 described above, expectations about output of the project need to be in line with the credits (6 EC) that are available for the RA-ship. When option 2 is chosen, the output of the RA can be integrated into the BSc thesis, which results in a significant increase in expected output. Note that the scope of the RA-ship, expected output and evaluation should be proportional with the weights of the two components in the programme (i.e. 6 + 12 EC). Evaluation of the RA is context dependent, since this depends on the nature of the research and the tasks conducted by the RA. General guidelines for evaluation and grading can, however, be provided and include the following aspects:

- Quality, originality and relevance of the research question (or of extensions/refinement of existing questions developed by the student)
- Theory development
- Extent and quality of data collection and analysis
- Description of findings and results
- Development and discussion of inferences and conclusions
- Independence (e.g. in formulating/developing/extending research questions, theory development, data collection and analysis and drawing of inferences)
- Overall quality of the research report (quality of writing, appearance etc.)

Not all elements may be equally important for each RA-ship, and weights should be determined in accordance with the nature of the project. When the RA is combined with the bachelor thesis, supervisors are recommended to take these criteria in conjunction with the evaluation checklist for

the thesis. In this case, the thesis and RA can be evaluated and graded as if they are one study component, even though this grade will be registered separately for the two components.

The possibility to engage in an RA and to gain hands-on experience in conducting research is dependent on the availability of qualified researchers and projects within the different research groups. Interested honours students are advised to actively explore possibilities through their contacts with faculty members in the BSc and honours programme, and with their mentor in the honours programme. Research projects will usually be formulated close to ongoing research projects at the department or research group, and depending on students' interests, they can apply at the appropriate research group and supervisor. Research-assistantships can start any time during the academic year, although students are recommended to engage in an RA after, and not before having completed their advanced methods course in the bachelor program. Entry level requirement may also be set for specific projects, which require certain quantitative or qualitative research skills. Typically, the second half of the last year in the honours programme may fit best when combining this with the BSc thesis. Students engaging in an RA are required to notify the programme coordinator up-front, and send a project proposal for approval to [honoursprogramma.feweb@vu.nl](mailto:honoursprogramma.feweb@vu.nl).

This proposal, developed jointly with the prospective supervisor, should include:

1. Research problem
2. Research question(s)
3. Research design
4. Relevance
5. Structure of the research paper
6. Planning

### Onderwijsvorm

Conducting an independent research project under individual supervision.

### Toetsvorm

Grading of the research paper and/or other research output by the supervisor.

### Literatuur

To be decided by the supervisor.

## Revalidatie

<b>Vakcode</b>	B_REVAL (900412)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	prof. dr. T.W.J. Janssen
<b>Examinator</b>	prof. dr. T.W.J. Janssen
<b>Docent(en)</b>	prof. dr. T.W.J. Janssen
<b>Lesmethode(n)</b>	Hoorcollege, Practicum
<b>Niveau</b>	400

## **Doel vak**

Na het volgen van deze cursus

- Is de student bekend met relevante begrippen, concepten en modellen uit de revalidatie, ook in de context van arbeidsreïntegratie en hulpmiddelproblematiek.
- Toont de student inzicht in de problematiek van speciale groepen in de context van revalidatie.
- Is de student in staat tot een kritische analyse van een probleem uit de revalidatie, arbeidsreïntegratie of hulpmiddelproblematiek.

## **Inhoud vak**

Revalidatie is te omschrijven als 'het gecoördineerd en gecombineerd gebruik van maatregelen op medisch, sociaal, arbeidstechnisch en onderwijskundig terrein die de gehandicapte op de voor hem/haar optimale plaats in de samenleving moet helpen'. Bij uitstek een multidisciplinaire teamprestatie. In deze cursus zullen verschillende aspecten van deze multidisciplinaire aanpak besproken worden, waarbij de verschillende disciplines aan bod komen bij het revalidatieproces van o.a. mensen met een dwarslaesie en niet-aangeboren hersenletsel. Daarnaast zal de vraag worden gesteld welke consequenties een functionele beperking heeft voor o.a. arbeidsparticipatie en hulpmiddelgebruik. De (mogelijke) rol van de bewegingswetenschapper binnen de revalidatie zal ook bediscussieerd worden.

## **Onderwijsvorm**

Deze module bestaat uit twee onderdelen: enerzijds een reeks bijeenkomsten (hoor- en werkcolleges, een workshop, en een bedrijfs- en 'werkplek' bezoek) anderzijds is er een groepsopdracht. De cursusomvang is 6 erts (168u), waarvan de uren per student als volgt zijn verdeeld over beide onderdelen: collegebijeenkomsten (15x2u), practica & werkgroepen (3x4u), tentamen (2u), de uitwerking van de groepsopdracht (74u), plus tot slot de college- en tentamenvoorbereiding (50u). De groepsopdracht wordt uitgevoerd in viertallen, waarin de wetenschappelijke onderzoekscyclus wordt uitgewerkt en doorlopen aan de hand van een typisch probleem in de context van ergonomie in de revalidatie. De opdracht wordt afgerond met een werkstuk en een referaat tijdens een reeks afsluitende colleges.

## **Toetsvorm**

Toetsing vindt plaats aan de hand van de praktijkopdracht (werkwijze en verslag) en een afsluitend schriftelijk meerkeuzetentamen. Beide onderdelen tellen voor 50% in het eindoordeel, waarbij de deeltijfers niet lager mogen zijn dan een 4.5 (afgerond). De collegestof en hand-outs en een aantal hoofdstukken uit het boek Revalidatie voor Volwassenen vormen het tentamenmateriaal.

## **Literatuur**

J.H.B. Geertzen, G.G. Vanderstraeten & J.S. Rietman. Revalidatie voor volwassenen. Jaar 2014. ISB 9023250796.  
Handouts en reader.

## **Intekenprocedure**

De indeling van werkgroepen/(computer)practica/tutorgroepen etc. vindt plaats via Blackboard.

## **Overige informatie**

Er wordt uitgegaan van latente kennis rond revalidatie op het nivo van het 1ste & 2 de jaar van de opleiding bewegingswetenschappen (Inleiding Bewegen en Gezondheid, Pathologie van het Bewegen en de readers)

## Schrijvershuisbezoeken

<b>Vakcode</b>	L_NNBAALG002 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. J.H.C. Bel
<b>Examinator</b>	dr. J.H.C. Bel
<b>Docent(en)</b>	dr. J.H.C. Bel
<b>Lesmethode(n)</b>	Excursie, Werkcollege
<b>Niveau</b>	300

### Doel vak

Elk van de bezoeken wordt in de daaraan voorafgaande week grondig voorbereid op basis van de lectuur van een of meer werken van deze auteur. Telkens vormt één werk, in combinatie met het zoeklicht 'poëtica', het uitgangspunt voor deze bezoeken. Vragen die aan de orde komen zijn: wat is de literatuuropvatting van deze schrijver? Welke kwesties houden hem/haar bezig? Hoe gaat de schrijver te werk? In hoeverre is het schrijven voor hem of haar een beroep?

### Inhoud vak

Onder leiding van Ernest van der Kwast, de 'vrije schrijver' aan de VU 2016-

2017, en Jacqueline Bel wordt een bezoek gebracht aan vier schrijvers. Elk van de bezoeken wordt in de daaraan voorafgaande week grondig voorbereid op basis van de lectuur van een of meer werken van deze auteur. Telkens vormt één werk, in combinatie met het zoeklicht 'poëtica', het uitgangspunt voor deze bezoeken. Vragen die aan de orde komen zijn: wat is de literatuuropvatting van deze schrijver? Welke kwesties houden hem/haar bezig? Hoe gaat de schrijver te werk? In hoeverre is het schrijven voor hem of haar een beroep?

### Onderwijsvorm

Werkcolleges en huisbezoeken onder leiding van Ernest van der Kwast en Jacqueline Bel. Er worden vier schrijvers bezocht. De namen worden spoedig bekend gemaakt.

### Toetsvorm

Actieve participatie en deelopdrachten (40 procent). Afrondend eindwerkstuk (60 procent). Colleges moeten altijd grondig zijn voorbereid conform de instructies uit de studiehandleiding.

### Literatuur

Een roman van Ernest van der Kwast (Mama Tandori) en van de schrijvers aan wie een huisbezoek gebracht wordt; secundaire literatuur over deze schrijvers en secundaire literatuur over poëtica-onderzoek (Van den Akker/Dorleijn, Sötemann).

**Vereiste voorkennis**

Geen, maar het college Meesterwerken uit de wereldliteratuur dient tegelijkertijd gevolgd te worden.

**Doelgroep**

De minor staat open voor alle Bachelor-studenten.

**Overige informatie**

Aanwezigheid verplicht

## Secure programming

<b>Vakcode</b>	XB_40005 ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Examinator</b>	dr. S. Rawat
<b>Docent(en)</b>	dr. S. Rawat
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

**Doel vak**

The objective of this course is to make students familiar with programming software that incorporates elements that are used frequently for security purposes. Students will develop programs that perform cryptographic operations, that communicate using encrypted connections, that exchange certificates, and so on.

**Inhoud vak**

Through a series of practical assignments the students are called to develop programs that incorporate useful features for security purposes. The students have the chance to become familiar with APIs (OpenSSL) for cryptographic operations, such as symmetric/asymmetric encryption, cryptographic hashing, cryptographic protocols, digital certificates, encrypted sockets, and SSL/TLS.

Deep understanding of core cryptography is not needed. Basic concepts of cryptography are introduced and refreshed in the course. The focus is mostly on using cryptographic elements for software development.

**Onderwijsvorm**

Lectures and practical assignments.

**Toetsvorm**

Written Exam (30%). Practical assignments (70%).

**Literatuur**

On-line material and Security Engineering: A Guide to Building Dependable Distributed Systems Book by Ross J. Anderson (free on-line: <http://www.cl.cam.ac.uk/~rja14/book.html>)

### Vereiste voorkennis

Knowledge of computer programming is essential.

## Semantic Web

<b>Vakcode</b>	X_400083 (400083)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. R.J. Hoekstra
<b>Examinator</b>	dr. R.J. Hoekstra
<b>Docent(en)</b>	dr. R.J. Hoekstra
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

The objective of the Semantic Web course is to make students acquainted with methods and technologies used for expressing knowledge and data on the Web. At the end of this course, students will have built an intelligent web application that queries and reasons over integrated knowledge from various sources obtained from the Web.

### Inhoud vak

Event though content on the web is generally produced from structured data sources (databases), its representation is in a form that is meant for human consumption. Linked Data allows to scale the walls of this siloed information space, by reusing identifiers and vocabularies across these datasets, and presenting that information in a way that is appropriate for machine consumption. Google, Bing and Yahoo already use this type of linked, structured information to improve web search and information retrieval. But it also helps content providers, such as the BBC, to better augment their content with content from other sources (e.g. from Musicbrainz).

In this course we will introduce the technologies and representation formats (RDF, RDFS, OWL) for expressing semantics and linked data in a web-accessible format, use the SPARQL query language to query over this data, and build a Web application that uses the data for some intelligent task.

### Onderwijsvorm

The course consists of interactive lectures and lab sessions. During the first half of the course, students will work on individual assignments. In the second half, students will collaborate in groups for their final project assignment.

### Toetsvorm

The final grade will be determined by the grades for the individual assignments and the final group project (report).



## Literatuur

A Semantic Web Primer (3rd edition)

Grigoris Antoniou, Paul Groth, Frank van Harmelen and Rinke Hoekstra,  
MIT Press, September 2012

## Aanbevolen voorkennis

Basic programming (Python, Javascript)

Web development

(Formal) Modeling

## Doelgroep

BSc Informatie, multimedia en management (2e jaar), BSc Lifestyle

Informatics (2e jaar)

Flexible Minor (voor CS, LI en IMM), Minor Web Services and Data, Minor

Artificial Intelligence

## Sensomotorische Coördinatie

<b>Vakcode</b>	B_SENSOCOR ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. C.E. Peper
<b>Examinator</b>	dr. C.E. Peper
<b>Docent(en)</b>	dr. C.E. Peper, prof. dr. A.M.L. Kappers
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Practicum
<b>Niveau</b>	200

## Doel vak

De student is bekend met het soort vragen dat in het onderzoek naar sensomotorische coördinatie wordt onderzocht. De student heeft basale kennis van de neurofysiologische en psychologische aspecten van bewegingscoördinatie, in het bijzonder in relatie tot de sensomotoriek.

De student is bekend met enkele belangrijke theoretische benaderingen, experimentele bevindingen en praktische toepassingen.

## Inhoud vak

Bij bewegen staan we zelden stil. We lopen, fietsen, spreken, schrijven, vangen, springen, slaan en schoppen alsof het niets is. Toch gaat het hier, als je er even over nadenkt, om vrij opzienbarende prestaties. Het menselijk lichaam telt meer dan 600 spieren en meer dan 100 gewrichten: daar kunnen heel wat bewegingen mee gemaakt worden, maar hoe maken we juist die ene, gewenste beweging? Dankzij het zenuwstelsel zijn onze bewegingen in de regel goed gestuurd en gecoördineerd, tenzij we te veel hebben gedronken of lijden aan een ziekte die de motoriek ondermijnt. De vraag die in deze cursus centraal staat is hoe de sturing en coördinatie van bewegingen tot stand komen, en welke rol onze sensorische systemen daarbij spelen. De cursus biedt een brede en gevarieerde inleiding in dit veelzijdige onderzoeksterrein. Naast een algemene introductie in de centrale thema's, wordt met name aandacht besteed aan de neurofysiologische en psychologische achtergronden van bewegingscoördinatie. Hierbij komt ook de relatie tussen waarnemen en bewegen ruimschoots aan bod. De stof wordt geïllustreerd aan de hand van

concrete voorbeelden van zowel alledaagse situaties als bepaalde ziektebeelden.

### **Onderwijsvorm**

28 uur/ 14 hoorcolleges

2 uur/ 1 vragenuurtje

2 uur/ 1 practicum

4 uur/ 2 werkcolleges

20 uur/ verslag schrijven

4 uur/ voorbereiding practicum en werkcolleges

10 uur/ 5 web-labs (incl. voorbereiding)

95 uur/zelfstudie (incl. college- en tentamenvoorbereiding)

3 uur / tentamen

De contacturen bestaan uit 14 hoorcolleges, 1 practicum, 2 werkcolleges en een vragenuurtje.

De hoorcolleges hebben tot doel de stof in de te bestuderen literatuur nader toe te lichten en met o.a. voorbeelden en opdrachten tot leven te brengen. Aanwezigheid bij de hoorcolleges is niet verplicht, maar de inhoud van de colleges maakt wel deel uit van de tentamenstof. Tijdens het practicum zullen een aantal coördinatiefenomenen aan den lijve worden ondervonden, en aan de hand van opdrachten worden bestudeerd. Naar aanleiding van dit practicum schrijft iedere student een verslag. Tijdens de werkcolleges worden een aantal onderwerpen uit de collegestof nader besproken. Het practicum en de werkcolleges worden uitgevoerd in groepjes van 15-20 studenten. Daarnaast wordt de student regelmatig uitgenodigd tot zelfwerkzaamheid aan de hand web-labs. Hierbij worden opdrachten uitgevoerd via Blackboard. Deze opdrachten worden niet behandeld tijdens de colleges. Sommige web-labs fungeren primair als een toets van de beheersing van de gedoeerde stof, terwijl in andere web-labs deze stof verder wordt uitgediept. Iedere web-lab is gedurende ongeveer 1 week beschikbaar. Het practicum, de werkcolleges, de web-labs, en het schrijven van het verslag zijn verplichte cursusonderdelen.

### **Toetsvorm**

Schriftelijk tentamen met ja/nee-vragen. Het eindcijfer wordt voor 90% bepaald door de score op dit tentamen en voor 10% door het cijfer voor het verslag. Tevens dient het cijfer voor het verslag minimaal een 4 te zijn. Daarnaast zijn uitvoering van de web-labs en actieve deelname aan het practicum en de werkcolleges een voorwaarde om de cursus te kunnen afronden.

### **Literatuur**

Verplichte literatuur:

- J. Tresilian (2012). Sensorimotor control & learning. An introduction to the behavioral neuroscience of action. Palgrave Macmillan: H1 t/m 4, §5.3, §7.1-2, §8.1, H9, H11, H12. Nadere specificatie van verplichte paragrafen wordt aangegeven in de cursushandleiding.
- Collegedictaat

Geadviseerde literatuur:

- Uit bovengenoemd boek van J. Tresilian: §5.4.2-3, §6.3, §7.3-5 (i.h.b. §7.5.4).

### **Intekenprocedure**

De indeling van werkgroepen/(computer)practica/tutorgroepen etc. vindt plaats via Blackboard.

## Overige informatie

De formateisen en deadline voor het werkstuk worden via Blackboard bekend gemaakt.

## Service Science

<b>Vakcode</b>	X_401077 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. J. Gordijn
<b>Examinator</b>	dr. J. Gordijn
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

### Doel vak

To The overall course objectives are:

- O1. Understand the multi-disciplinary nature of Service Science
- O2. How to Analyze and Design an e-service from both business/economic and IT perspectives
- O3. Reflect through a multidisciplinary lens on the gap between business and IT perspectives as well as on the process of how a business idea is converted to a set IT service solutions.

Considering the following objective, on completion of the course, the students will gain the following competencies:

- C1. Create different e-service (business) ideas and critically assess them. In this way the student will be able to take an informed decision about the e-services based on possible risks and opportunities.
- C2. Exploration of the e-Service idea from a business perspective. In this way the student will be able to further design and develop the e-service idea using different analysis techniques. The student will be able to to analyze and design an e-services from different views.
- C3. Transform the business perspective of the e-service design into a design reflecting the IT perspective. In this way, the student will be able to fully change the perspective and analyze and design the e-service from IT-perspective.
- C4. Assess the gaps between business and IT perspectives of their e-service. In this way the students will be able to verify if the designed IT e-service realizes business idea behind the e-service.

### Inhoud vak

Service science is organized in two tracks: (i) a business track and (ii) an IT track. The business track provides the students with the knowledge of different interpretations of 'service' and economic

importance of services, strategic issues related to services as well as approaches to develop services. The IT track deals with a model-based approach to develop services, as well as service oriented IT development. Special emphasis is given to bridge the gap between business and IT. The students participate in small teams to develop and understand a service from both perspectives. In addition, experts from academia and industry are invited to give guest lectures.

### Onderwijsvorm

Lectures, individual case studies, and group assignment.

### Toetsvorm

Written exam, an integrated assignment, and case studies.

Both the exam and the integrated assignment count for 50% each.

Case studies will be marked as 'passed' or 'failed' only.

Students may fail one case study, but should pass all the others.

In order to pass the course, students should:

- 1) for the exam and the integrated assignment both score 5 or higher, and
- 2) the score for course (65% exam, 35% integrated assignment) should be 6 or higher, and
- 3) at most fail one case study

### Literatuur

Service Management, 8th international student edition, James A. Fitzsimmons, Mona J. Fitzsimmons, Sanjeev K. Bordoloi, 2014

Web Services, Gustavo Alonso, Fabio Casati, Harumi Kuno, Vijay Machiraju, 2004

Additional materials via BlackBoard

### Aanbevolen voorkennis

Business Modeling & Requirements Engineering

### Doelgroep

3IMM, 3CS, 3LI

### Overige informatie

The maximum number of participants in this course is 30.

## Shared Value Creation

<b>Vakcode</b>	E_IBA3_SVC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. H.L.F. de Groot
<b>Examinator</b>	prof. dr. H.L.F. de Groot
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

#### Academic skills:

Understanding and applying theories related to shared value and sustainable development.

#### Knowledge:

Understanding the complex theoretical, empirical and societal debate on the relationship between organizations, technological dynamics, society, and the natural environment and the implications for the transition in the direction of sustainable development; Knowing which stakeholders have which stakes, and how to act- react and report on those.

#### Bridging theory and practice:

Experiencing how concepts (shared value, sustainability) translate into concrete actions and products (integral accounting, innovation, lobby).

#### Social Skills:

Active debates will develop social skills and logic argumentation.

### **Inhoud vak**

This course examines the fundamental technological and organizational transitions that are ahead of companies and that are required to deal with the grand challenge of sustainable development. A shift from narrow profit maximization to shared value creation seems eminent. But how is shared value created? With which stakeholders? How does value creation change the way companies report to their stakeholders? And how does financing and reporting accelerate sustainable transitions?

This course will give you insight into what strategic reorientation is needed to create shared value: what technologies, products and markets to focus on, whom to work with, how to report on performance? After completing the course, you will understand which fundamental changes are needed in business operations, how governments can successfully intervene to change firm behavior into a more sustainable direction, and how these changes are embedded within the wider stakeholder network.

Part 1 of the course presents the theoretical and empirical framework that will be used to analyze innovation and adoption behavior of firms. It includes a discussion of the context within which the company behaves and an analysis of the effectiveness of policy instruments. How can companies create shared value? How does this influence their strategy and performance? What are the challenges the firm and government face in the transition towards a sustainable future? Attention will also be devoted to the shift from financial, to sustainability and integral reporting and on how reporting influences a firm's legitimacy.

Part 2 focuses on how the paradigm shift from a shareholder to a stakeholder approach as shared value creation is a multi-stakeholder challenge. Who are key stakeholders? What challenges do companies face in integrating stakeholder knowledge? And how can the collaboration with stakeholders help the company succeed?

### **Onderwijsvorm**

Lectures  
Tutorials

### **Toetsvorm**

Written exam – Individual assessment  
(Interim) Assignment(s) – Group assessment  
Class participation

## Literatuur

Senge, Smith, Kruschwitz, Laur and Schley (2008), *The Necessary Revolution: How Individuals and Organizations Are Working Together to Create a Sustainable World*, Doubleday (selected chapters).

Additional selection of articles will be announced on Blackboard.

## Small Business Development

<b>Vakcode</b>	E_IBK3_SBD ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. G.J. Beekman MA
<b>Examinator</b>	drs. G.J. Beekman MA
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

### Doel vak

Knowledge:

- To become aware of the differences between large and small firms.
- To obtain in-depth knowledge of the theoretical domain of small business management.
- To understand the role of small businesses in various contexts (sector, region).

In terms of knowledge, this course builds upon Organization Theory (year 1), and (International) Strategy (year 2). SBD specifically addresses the small business phenomenon: how are general trends and specific strategic issues and theories different (or: the same) when it comes to managing small businesses.

Bridging Theory and Practice:

- To apply this knowledge, and previously acquired research skills to a selection of small business contexts.

With regards to the application of theory to practice (fieldwork), this course most specifically builds on Business Research Methods I (BK) and Business Research Methods II (IBA). The students will employ previously learned qualitative research skills to help solve real-life sector problems.

### Inhoud vak

Small businesses are facing tremendous challenges, with the ongoing digitalization and globalization today's world of business is facing. Next to the distinction in terms of size, small business can also be distinguished on the basis of their qualitative characteristics, such as the crucial role of the owner-manager, the strong local and regional focus and the presence of family businesses.

This course is a balance between theory and practice. The fieldwork will take place in Amsterdam.

## Onderwijsvorm

Lectures  
Tutorials

## Toetsvorm

Written exam – Individual assessment  
Group project - Group assessment

## Literatuur

To be announced.

## Aanbevolen voorkennis

BK:  
1.2 Organization Theory; 2.2 Strategy; 2.4 BRM I – Qualitative; 2.5  
Corporate Entrepreneurship;

IBA:  
1.2 Organization Theory; 1.3 Academic Skills; 2.2 International  
Strategy; 2.5 BRM II – Qualitative

## Social Media

<b>Vakcode</b>	S_SM ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. B.K. Johnson
<b>Examinator</b>	dr. B.K. Johnson
<b>Docent(en)</b>	dr. B.K. Johnson
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	200

## Doel vak

The social media course is part of the minor Netwerken in de Informatiemaatschappij. In this course, you will learn about social media through thorough review of relevant research, reflective use of social media, and analysis of social media networks and campaigns. Lectures on Tuesday and Friday will be devoted to understanding social media from a research perspective with an emphasis on the social psychological experience of social media use. Every Friday, workgroups will focus on analytic methods in the domains covered during the previous lectures. The course is structured around four themes:  
Relevant theories of media and innovation  
Individual and interpersonal factors  
Social media campaigns and the management of social media  
The intended and unintended effects of social media use  
Through this combination of lectures and workgroups, you will gain new theoretical grounding and analytic skills with which to understand this dynamic technology.

## Inhoud vak

Below is an overview of the course. The themes organize the individual lecture topics. Each theme connects directly to the course assignments,

and several of the course assignments are the foundation for the final group presentation.

#### Background and Theory

- Introduction, history, & terminology
- Medium theory & diffusion of innovations
- Affordances, interactivity, & social constructivism

#### Individual and Interpersonal Factor

- Self-presentation
- Impression formation & management
- Interpersonal relationships

#### SM Campaigns and Management

- Campaign design & health
- Online activism
- Marketing & online PR

#### Social Media Effects

- Privacy & information sharing
- Information seeking & social influence
- Addiction, self-esteem, & happiness

Every student is expected to finish the assigned readings in advance of each class meeting. You are responsible for accessing journal articles online. Book chapters will be made available as .pdf files. All readings are required unless otherwise specified. Approximately each week, you will write a blog post that presents the work you have done in the workgroup.

#### **Onderwijsvorm**

Lectures and study groups.

#### **Toetsvorm**

Assessment will consist of an individual digital examination (40%), 5 workgroup assignments posted to your blog or Blackboard (50%), and one group report/presentation (10%). Three workgroup assignments are collaborative but graded individually. The final project/presentation will be graded by group, but may be weighted for individual contributions.

#### **Literatuur**

The obligatory literature will include published journal articles and chapters. These will be available prior to each lecture via online databases.

#### **Doelgroep**

FSW students pursuing the minor in Netwerken in de Informatiemaatschappij, as well as other interested bachelor, minor, and exchange students.

#### **Overige informatie**

The class will be entirely in English, including all lectures, correspondence, assessments, and assignments. Foreign exchange students are very welcome.

## Sociology of Globalization and Multiculturalism



<b>Vakcode</b>	S_SGM ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	drs. B. Slijper
<b>Examinator</b>	drs. B. Slijper
<b>Docent(en)</b>	drs. B. Slijper
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

1. Students are familiar with the basic concepts in this research field: nation(alism), culture, ethnicity and identity.
2. Students are able to distinguish between the different theories on the effects of globalization of national societies: homogenization, differentialism and hybridization.
3. Students are able to distinguish between the different theories of immigrant incorporation; assimilation, multiculturalism and trans- and postnationalism.

### Inhoud vak

This course is an introduction to the minor Frontiers of Multicultural Societies. Students will be introduced into the basic concepts and theories in this research field. The course will offer the student a broad overview of the facts and figures of globalization and immigration, its presumed effects on national cultures, and the most important theoretical debates within this thematic. The parallel course Radicalization and Conflict, and the subsequent courses Global Religion and Identity and Diversity in Organizations will zoom in to the more specific issues of globalization and diversity from various disciplinary perspectives. The final course Urban Struggle focuses on the concrete manifestations of globalization, migration and diversity in the local metropolitan context.

### Toetsvorm

Written examination

### Literatuur

Kivisto, Peter & Thomas Faist (2010). Beyond a border: The causes and consequences of contemporary immigration. London: Sage.  
 Additional articles available on-line (t.b.a.). These articles will include (excerpts from) classical texts by authors such as Benedict Anderson, Ernest Gellner, Rogers Brubaker, Samuel Huntington, Benjamin Barber, Francis Fukuyama, Ulf Hannerz, Milton Gordon and Alejandro Portes.

### Doelgroep

Bachelor students; Exchange students

### Overige informatie

This course is part of the minor Frontiers of Multicultural Societies. Please note that the course has an introductory character.

## Sportpsychologie

<b>Vakcode</b>	B_SPORTPSY (900554)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. R.R.D. Oudejans
<b>Examinator</b>	dr. R.R.D. Oudejans
<b>Docent(en)</b>	dr. R.R.D. Oudejans
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	200

### Doel vak

Studenten beschikken over kennis van en inzicht in de belangrijkste onderwerpen, stromingen en theorieën van de sportpsychologie.

### Inhoud vak

De cursus beoogt de studenten te introduceren in het domein van de sportpsychologie en hen kennis te laten maken met het gebied van de exercise psychology. Aan de hand van het boek 'Sportpsychologie' vindt kennismaking plaats met de belangrijkste onderwerpen van de sportpsychologie. Aan de orde komen:

- sportpsychologie en de relatie van sportpsychologie met 'de' psychologie; de ontwikkeling van de sportpsychologie;
- motivatie, attributie en emotie en sport;
- persoonlijkheid en sport;
- mentale vaardigheden en mentale training;
- coaching;
- sportteams;
- agressie, blessures, burn-out, verstoord eetgedrag en 10.000 uur oefenen;

Daarnaast wordt kort stilgestaan bij mentale voorstellingen.

Kennismaking met de exercise psychology vindt plaats aan de hand van hoofdstuk 18 uit het boek 'Foundations of sport and exercise psychology' van Weinberg & Gould, waarbij onder andere aandacht wordt gegeven aan verschillende modellen van gedragsverandering.

### Onderwijsvorm

De cursus omvat 13 hoorcolleges van elk twee uur en wordt afgesloten met een tentamen. De resterende circa 140 uren zijn voor zelfstudie. Twee van de 13 colleges zijn gastcolleges verzorgd door sportpsychologen die in de praktijk van de sport werkzaam zijn.

### Toetsvorm

Tentamen (waar-onwaarvragen). Het tentamen duurt 2,75 uur inclusief dyslexietijd.

### Literatuur

- Bakker, F.C., & Oudejans, R.R.D. (2012). Sportpsychologie. Nieuwegein: Arko Sports Media (circa EURO 52, 50);
- Weinberg, R.S. & Gould, D. (2007 of 2011). Foundations of sport and exercise psychology (4de of 5de druk), hieruit Hoofdstuk 18, Exercise behavior and adherence, pp. 415-446. Champaign, IL: Human Kinetics.
- Aanvullende literatuur wordt aan het begin van de cursus opgegeven en is opgenomen in de cursushandleiding.

# State, Power and Conflict

<b>Vakcode</b>	S_SPC ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. E.B. van Apeldoorn
<b>Examinator</b>	dr. E.B. van Apeldoorn
<b>Docent(en)</b>	dr. E.B. van Apeldoorn
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	100

## Doel vak

This course aims to familiarize students with fundamental political science concepts, especially the concept of power, and apply those concepts in order to gain a better understanding of the recent history of, and contemporary issues in, world politics. After completing the course, students will have:

- Knowledge of different approaches to the concept of power and be able to apply these to the analysis of (contemporary) political issues;
  - An understanding of what 'states' are and how the modern state and the modern states system came into being;
  - Knowledge of some key approaches in political science and an overview of the discipline and major sub-disciplines;
  - Knowledge of and insight into the main developments in the history of world politics from the Peace of Westphalia to the Iraq War and the current era of globalization and the power shift to Asia;
- Be familiar with main patterns of cooperation and conflict between states as well as between non-state actors and be able to understand some of these patterns by the application of key political science concepts and some key approaches within the sub-discipline of International Relations.

## Inhoud vak

The course, which offers a broad introduction to the major concepts of and main approaches in political science, consists of two main parts. After a critical overview of different concepts of power, the concept of the state and contending perspectives on the conflict and cooperation within modern political systems, the course introduces students to contemporary world politics through an overview of international political history from the 17th century to the present. Here we seek to understand history by identifying recurrent patterns of cooperation and conflict not just between states but also involving non-state actors, and by applying some of the concepts and approaches dealt with in the first part of the course. The course will end with a discussion of contemporary issues within the context of a globalized world politics, such as the ongoing War on Terror, the communications revolutions and its impact upon power.

## Toetsvorm

Written examination

## Literatuur

- Nye, J., en D. Welch Understanding Global Conflict and Cooperation: An Introduction. Latest International Edition. Pearson.

- To be announced

## Doelgroep

Bachelor students; Pre-Master Course students; Exchange students.

## Statistical Data Analysis

<b>Vakcode</b>	X_401029 (401029)
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. B.T. Knapik
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

## Doel vak

This course acquaints the students with the theory and application of several widely used statistical analysis techniques. After completing this course the student knows the theory behind the different techniques and is able to verify which techniques are applicable to a given data set. Using the learned statistical tools, the student is able to summarize and analyze real data sets using the statistical software package R.

## Inhoud vak

This is an advanced level statistical data analysis course that builds on an introductory course on statistics, e.g. Algemene Statistiek. The course introduces the students to several widely used statistical models and methods, and the students are taught how to apply these tools to real data with the use of the statistical software package R. The following subjects are covered:

- summarizing data;
- investigating the distribution of data;
- robust methods;
- non-parametric methods;
- bootstrap;
- two-sample problems;
- contingency tables;
- multiple linear regression.

The course is a combination of theory (in the lectures) and practice (in the computer classes). Since the solutions of the computer assignments are discussed during the lectures, the theory is explicitly linked to the practice of statistical data analysis.

## Onderwijsvorm

Lectures, computer classes.

## Toetsvorm

Weekly homework assignments in R and written exam.

## Literatuur

Lecture notes.

## Doelgroep

2BA, 2W, 2W-B, 3W, 3W-B, 3Ect.

## Statistics

<b>Vakcode</b>	E_EOR1_STAT ()
<b>Periode</b>	Periode 4+5
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. J.M. Sneek
<b>Examinator</b>	dr. J.M. Sneek
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	100

## Doel vak

Het college Statistics is een eerste inleiding in de basisbegrippen van de mathematische statistiek. Na afloop van de cursus kan de student statistische modellen opstellen, verschillende soorten schatters bepalen, diverse standaard toetsen opstellen en uitvoeren en betrouwbaarheidsintervallen construeren.

## Inhoud vak

In de statistiek wil men op grond van waarnemingen uitspraken doen over de kansverdeling waaruit deze waarnemingen afkomstig zijn. In het college komen aan bod: statistische modellen, puntschatten, toetsen, en het construeren van betrouwbaarheidsintervallen; verdelingsonderzoek en klassen kansverdelingen worden wanneer ze nodig zijn bij deze onderwerpen toegevoegd. Begripsvorming en de presentatie van enkele veel gehanteerde methoden staan centraal. De stof wordt geïllustreerd aan de hand van interessante praktijkvoorbeelden, aangevuld met numerieke en grafische uitwerkingen in Excel. In dit vak ligt de nadruk op de zogenaamde parametrische statistiek, dat wil zeggen dat de kansverdeling op één of meer parameters na bekend is.

## Onderwijsvorm

Hoorcolleges

Instructiecolleges

Een aantal onderwerpen zullen via zelfstudie worden geleerd. Hieronder valt het aanleren van Excel via een elektronische cursus.

## Toetsvorm

Tussentoets – Individuele beoordeling

Afsluitend, geschreven tentamen – Individuele beoordeling

Individuele opdrachten tijdens de instructiecolleges – Individuele beoordeling

## Literatuur

"Statistical Inference" van G. Casella en R.L. Berger (2008), International Edition of the 2nd revised edition, Cengage Learning  
Aanvullende documentatie via Blackboard of website.

**Vereiste voorkennis**

Geen

**Aanbevolen voorkennis**

Actieve beheersing van de VWO wiskunde  
 Kennis van het vak Probability Theory

**Doelgroep**

Eerstejaars studenten van de opleiding Bsc Econometrie & Operations Research

**Uitleg in Blackboard**

bb.vu.nl

**Intekenprocedure**

N.v.t.

## Strategic management from a practice perspective: A day in the life of a CEO

<b>Vakcode</b>	E_IBK3_SMPP ()
<b>Periode</b>	Periode 5
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. M.M. Rietdijk
<b>Examinator</b>	dr. M.M. Rietdijk
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Instructiecollege
<b>Niveau</b>	300

**Doel vak**

At the end of the course, students should be able to:

- Get insight into the tasks and challenges that CEOs of multinational firms are facing in their day-to-day work as a strategy maker;
- Bridge theory and practice by being able to relate popular management frameworks to strategic challenges that company leaders experience;
- Critically reflect on the interrelationships between the various strategic tasks of CEOs and how they can be successfully orchestrated.

These objectives will further develop various skills students had to master in the first two years of the program:

- Linking theory and concepts to practice;
- Gaining in-depth knowledge of the field of strategy.

The course focuses primarily on the following overall learning objectives in line with the IBA bachelor programme:

- Academic skills in analysis, abstraction, argumentation, and application.
- Bridging theory and practice with ability to translate and apply theoretical knowledge into business situations.
- Broadening students horizons by having a good understanding of current events on a global scale.

## Inhoud vak

The course aims to familiarize the student with the most important themes relevant for the strategic management of a firm. It aims to put students into the position of a CEO and expose them to those issues a CEO needs to deal with in a strategic manner. The session making up this course will each deal with a particular strategic question that addresses a broader theme, such as: How to gain and sustain a competitive advantage? (strategic positioning); In which markets to compete? (internationalization strategy); How to grow and expand our business? (M&A strategy); How to be successful and sustainable? (sustainability strategy); How to meet the challenges of the digital age? (digitalization strategy); How to manage relations with the board of directors? (corporate governance strategy); How to be a good leader? (leadership strategy). Students will learn to take a birds-eye point of view and discuss how these strategic issues are interrelated and together comprise the building blocks of corporate strategy. Invited guest speakers (CEOs) will allow students to be further exposed to real-life challenges of strategic management. Students will further be asked to examine critically the work (and strategy making) of one famous CEO of their choice (such as Steve Jobs, Bill Gates, etc.) based on publicly available data such as speeches and videos, and relate the CEOs behaviour to the strategic management approaches discussed in class. Findings will be presented during classes in teams.

## Onderwijsvorm

Lectures  
Tutorials

## Toetsvorm

Written exam – Individual assessment  
Essays based on readings – Individual assessment  
Case study presentation – Team assessment  
Class participation

## Literatuur

This course is article based.  
Readings will be announced in course manual.

## Aanbevolen voorkennis

BK:  
1.2 Organization Theory; 2.2 Strategy; 2.5 Corporate Entrepreneurship;  
3.4 Foundations of Strategic Management

IBA:  
1.2 Organization Theory; 1.3 Academic Skills; 2.2 International Strategy; 3.4 Foundations of Strategic Management

## Strategic Management of Technology and Innovation

<b>Vakcode</b>	E_BK3_SMTI ()
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	prof. dr. ir. J.J. Berends

<b>Examinator</b>	prof. dr. ir. J.J. Berends
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	200

### Doel vak

Academic skills: In this course students learn to critically evaluate innovation management concepts from academic literature and popular management press.

Knowledge: In this course, students gain theoretical understanding concerning:

- innovation types and the external innovation environment including innovation trajectories, standards, platforms, and ecosystems
- the development of innovation strategies and their operationalization in project selection, collaboration, and protection
- the product development process and organizational conditions for innovation

Bridging theory and practice: The course offers insight in the strategic importance of technological innovation for firms and society, recent developments in technology and innovation, and helps to develop skills to analyze real life cases.

### Inhoud vak

This course focuses on the strategic management of technology and innovation. Innovation refers to the development and implementation of new products, services, processes and business models and many of those innovations are enabled by technological developments. Innovation is crucial for business organizations to stay competitive in ever changing markets. In this course, students learn to understand and apply basic theories behind the processes of technology-based innovation within organizations and their environments, the development of innovation strategies, and the organizational implementation of innovation strategies. Theoretical understanding is applied in a simulation game and real life cases focusing on managerial dilemmas in the management of innovation.

### Onderwijsvorm

Lectures  
Tutorials

### Toetsvorm

Individual assignment  
Group assignments  
Written exam

### Literatuur

- Schilling, M. (2016). Strategic management of technological innovation (5th ed). Boston: McGraw-Hill.
- Selection of academic articles (listed in course manual)
- Lectures and lecture slides

## Structural Policy

<b>Vakcode</b>	E_ME_SP ()
<b>Periode</b>	Periode 2



<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. S. Hochguertel
<b>Examinator</b>	dr. S. Hochguertel
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

The objective of this course is to identify, justify, analyze and evaluate policy options to various current economic problems, including labor markets, social insurance, pensions, development, trade, environment and product market competition. Using problem sets and exercises, along with work on economic data will increase and deepen understanding and help broaching a large number of microeconomic policy fields.

Specific learning outcomes upon completion of this curricular item are:

- Ability to formulate the economic rationale for policy intervention in various current economic problems
- Ability to develop policy options from economic theories
- Ability to evaluate existing and potential policy options, both in theory and in practice
- Critical attitude to existing theoretical and empirical policy analysis of current economic problems
- Ability to apply tools of economic modeling
- Ability to interpret economic data

### Inhoud vak

Structural policy is on top of the agenda when it comes to keeping individual countries on the path to stability and growth. Microeconomic structural reforms (say, in labor and product markets, social security and welfare systems) are often seen as long-run policy measures complementary to short-term macroeconomic stabilization policies.

This course discusses the role of economic policy in the context of both market failures and government objectives to adjust market outcomes. Each problem is analyzed along four different dimensions: (1) statement of the problem, (2) discussion of the rationale for government intervention, (3) policy options, and (4) evaluation of the economic outcomes of the policy in theory and practice. Current structural economic problems arising in the following fields are prime candidates to be discussed:

- Labor market: unemployment incidence, active labor market policy, taxes and labor supply
- Social insurance and social security: disability insurance, moral hazard, welfare payments, pensions (social security), adverse selection
- Environment: externalities, property rights, tragedy of the commons, taxation, climate policy
- Development and trade: analysis of living standards, provision of legal and political frameworks, trade protection, WTO
- Competition policy and regulation: imperfect competition, market power, cartels, price-discrimination, regulation and de-regulation

During the course both theoretical and empirical economic work is discussed.

**Onderwijsvorm**

Lectures, guest lectures and working groups

**Toetsvorm**

Grade is average of problem sets (2/5) and written examination (3/5), with written exam grade of at least 5.0.

**Literatuur**

Acemoglu, Daron, David Laibson and John A. List, 2016, Economics, Harlow, Essex, Pearson Education Ltd. ISBN 13: 978-1-292-07920-2, incl. access code MYECONLAB.

**Vereiste voorkennis**

Basic knowledge of math and statistics, as provided in the academic core of any academic program at VU University Amsterdam or equivalent.

**Aanbevolen voorkennis**

Foundations of Microeconomics

**Doelgroep**

Third-year bachelor students.

**Overige informatie**

last updated: 20160523

## Sustainable Supply Chain Management

<b>Vakcode</b>	E_IBA3_SSCM ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. ir. D.A.M. Inghels
<b>Examinator</b>	dr. ir. D.A.M. Inghels
<b>Docent(en)</b>	dr. ir. D.A.M. Inghels
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

After successfully completing the course Sustainable Supply Chain Management you are able to

**Academic Skills:**

- Analyze supply chain problems taking into account interests of different stakeholders (economic, ecological, societal and others) and evaluate (future) performance effects of supply chain policy options. This type of analysis will support sustainable decision-making.

**Quantitative Skills:**

- Quantify the economic, ecological and societal objectives for supply chain management cases by applying and master commonly used techniques to tackle real life sustainable supply chain management problems.

**Knowledge:**

- Understand the transition from a linear to a closed loop (circular)

economy and its implications for Supply Chain Management

Bridging Theory and Practice:

- Use a sustainable supply chain analysis framework to assess contemporary topics in sustainable supply chain management and to analyze supply chain management cases.
- Formulate recommendations for improvement of supply chains from a sustainable perspective

### **Inhoud vak**

This course aims to introduce students in operationalizing sustainability in supply chains. We define sustainability as the combined economic, environmental, and social optimum of supply chain alternatives that take into account constraints, such as technological limits or legislation, also known as the triple bottom line (TBL) approach of People-Planet-Profit optimization. Life Cycle Assessment (LCA) is presented as a methodology to quantify the environmental impact of products and processes and Analytic Hierarchy Process (AHP) to quantify social impact. Multi Criteria Decision Analysis is introduced as a concept to operationalize the TBL approach for practical sustainable supply chain problems. Next we discuss systems thinking using Systems Dynamics for understanding and evaluating the complex and interactive behaviour of systems, such as sustainable supply chains. Finally the sustainability evaluation of chains and the management of reverse supply chains will be addressed.

### **Onderwijsvorm**

Lectures and computer tutorials

### **Toetsvorm**

Written exam – Individual assessment  
(Interim) Assignment(s) – Group assessment

### **Literatuur**

Readings will be announced via Blackboard

### **Aanbevolen voorkennis**

It is recommended that students are familiar with key concepts and techniques from business or operations management and (business) mathematics.

## **Systems Programming**

<b>Vakcode</b>	X_400377 (400377)
<b>Periode</b>	Periode 1
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. A. Bakker
<b>Examinator</b>	dr. A. Bakker
<b>Docent(en)</b>	dr. A. Bakker
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

**Doel vak**

The goal of this course is to prepare students for lab assignments and scientific research in computer systems (operating systems, compiler construction, network programming, computer networks, parallel programming, etc.) After attending this course, students should be able to develop, test, and debug "systems" programs written in C under Linux or BSD.

**Inhoud vak**

The course is a combination of lectures and lab assignments.

During the course, the student is taught how to program in C, use POSIX APIs for process control and networking, understand memory management, use low-level debugging and verification tools, and use performance profiling tools.

**Onderwijsvorm**

7 lectures, in combination with several lab assignments to be returned during the study period. Extensive help will also be provided by ways of questions and answers sessions, and a discussion mailing list.

**Toetsvorm**

The student will be graded based on the lab assignments he or she handed in.

**Vereiste voorkennis**

- must have studied algorithms (incl. sorting, basic graph processing) and data structures (incl. lists, trees, priority queues);
- must have basic understanding of Unix concepts (directory tree, file permissions, terminal).

**Aanbevolen voorkennis**

Prior experience with another language from the C family (eg. Java, Arduino-C, C++, Objective-C, C# or D) is strongly recommended.

**Doelgroep**

3CS

**Overige informatie**

Registration for this course is also compulsory via Blackboard one week before the start. The course will be given in English.

The coordinator and teacher of this course is Arno Bakker ([arno@cs.vu.nl](mailto:arno@cs.vu.nl))

**Taaltoets**

<b>Vakcode</b>	E_BACH_TAALT ()
<b>Periode</b>	Periode 1
<b>Credits</b>	0.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	drs. R.W. de Crom
<b>Examinator</b>	drs. R.W. de Crom
<b>Lesmethode(n)</b>	Practicum

## Overige informatie

Omdat taalbeheersing onmisbaar is voor een academische studie, nemen alle eerstejaars bachelorstudenten van een Nederlandstalige bacheloropleiding aan de VU deel aan de Taaltoets Nederlands. De taaltoets is verplicht.

Kijk voor meer informatie op <http://www.vu.nl/nl/opleidingen/praktische-informatie/regelingen/taaltoets/index.aspx>.

## Talent en Talentontwikkeling

<b>Vakcode</b>	B_TALENT (900555)
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. D.L. Mann
<b>Examinator</b>	dr. D.L. Mann
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	300

### Doel vak

On the successful completion of this course, students will be able to:

1. Critically evaluate whether skilled athletes are 'born' or 'made' (i.e., evaluate the nature vs. nurture debate in the development of athletic skill);
2. Critically appraise current means of identifying talent and consider newer, more evidence-based methods;
3. Apply knowledge about the typical developmental pathways used to describe how talent develops;
4. Identify environmental factors associated with the development of athletic skill;
5. Evaluate the ethical considerations inherent in identifying talent from a young age;
6. Critically evaluate existing or new systems established by applied sporting organisations to identify and nurture talent.

### Inhoud vak

The ability to identify and develop talent in potentially skilled athletes is a central role for many coaches, scientists, and sporting administrators. National and professional sporting organisations invest substantial amounts of time and money in establishing systems designed to identify and nurture future talent, yet there is still considerable doubt about how effective these systems may be. This course on Talent and Talent Development will assess what it takes to become a talented athlete, and will uncover what we know about the ideal conditions for developing athletic skill. The course will address the emerging body of research that seeks to evaluate existing talent identification systems and to develop newer, more evidence-based procedures for identifying and developing talent. Further, a number of applied case studies will be examined to discover how these issues have been addressed by professional sporting organisations.

### Onderwijsvorm

The course consists of 12 lectures (18 hours in total), in addition to the expectations of self-study (approximately 114 hours), an assignment (approximately 10 hours total) and a final exam (3 hour duration)

### Toetsvorm

The exam consists of multiple-choice and short-answer questions. The exam will be in English.

### Literatuur

Textbook: Baker J., Cobley S., Schorer, J. (2012) Talent identification and development in sport. International perspectives. Routledge: Abingdon, Oxon

## Tax and Organizations

<b>Vakcode</b>	E_EBE3_TO ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	mr. J. Gooijer
<b>Examinator</b>	mr. J. Gooijer
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege
<b>Niveau</b>	200

### Doel vak

Studenten die voor dit vak zijn geslaagd:

- hebben kennis van en inzicht in de Nederlandse inkomstenbelasting, in het bijzonder ten aanzien van de onderdelen winst uit onderneming (box I, o.a. het fiscale ondernemingsbegrip, het fiscale winstbegrip met zijn onderverdeling in totaalwinst en jaarwinst, specifieke jaarwinstbepalingen, verliesverrekening en stakingswinst), de inbreng in de bv en het aanmerkelijk belang (box II) (Vakkennis);
- hebben kennis van en inzicht in de hoofdlijnen van de Nederlandse vennootschapsbelasting (belastingplicht, winstbegrip, kapitaalbegrip, deelnemingsvrijstelling en fiscale eenheid) (Vakkennis);
- hebben kennis van de hoofdlijnen van de omzetbelasting en de loonheffingen (loonbelasting en premies volksverzekeringen) en het formele belastingrecht (Vakkennis);
- kunnen in een casus fiscale problemen met betrekking tot de genoemde belastingen onderkennen, analyseren en oplossen (Link met de Praktijk);
- kunnen de rollen en verantwoordelijkheden van de verschillende 'stakeholders' bij de belastingheffing van ondernemingen benoemen ('tax policy', maatschappelijke verantwoordelijkheid en 'fair share', horizontaal toezicht en 'Tax Control Framework') (Vakkennis; Academische vaardigheden).

### Inhoud vak

Het vak geeft studenten kennis van en inzicht in de Nederlandse belastingen waarmee een onderneming te maken heeft. Ingegaan wordt op de hoofdlijnen van Nederlandse inkomstenbelasting voor zover relevant voor de onderneming: het fiscale ondernemingsbegrip, het fiscale winstbegrip met zijn onderverdeling in totaalwinst en jaarwinst, specifieke jaarwinstbepalingen, verliesverrekening en stakingswinst, de inbreng in

de bv en het aanmerkelijk belang. Ook de hoofdlijnen van de Nederlandse vennootschapsbelasting komen aan bod: de belastingplicht voor de vennootschapsbelasting, het winst- en kapitaalbegrip, de deelnemingsvrijstelling en de fiscale eenheid. Tevens komen aan de orde de hoofdlijnen van de omzetbelasting en de loonheffingen (loonbelasting en premies volksverzekeringen) en het formele belastingrecht. Aan de hand van cases zullen de hoofdlijnen van genoemde belastingen worden toegepast.

Omdat de verplichtingen die voortvloeien uit de genoemde belastingen niet alleen de onderneming zelf aangaan, komt tijdens het vak ook de relatie met andere 'stakeholders' aan bod (bijvoorbeeld de belastingdienst en de samenleving als geheel). Aandacht wordt besteed aan verticaal en horizontaal toezicht, het 'tax control framework', de maatschappelijke verantwoordelijkheid en de 'fair share'-gedachte.

### Onderwijsvorm

Hoorcolleges.  
Werkcolleges.  
Gastcolleges.

### Toetsvorm

Schriftelijk tentamen - individuele beoordeling.

### Literatuur

Stevens L.G.M., Elementair belastingrecht voor economen en bedrijfsjuristen (theorieboek), Deventer: Kluwer, laatste druk.  
Wetboek (pocket belastingwetten, laatste druk, van Kluwer, Vermande of SDU).  
Aanvullende (verplichte) literatuur wordt bekendgemaakt op Blackboard.

### Aanbevolen voorkennis

Accounting and IT Systems I.

## The Developing Brain

<b>Vakcode</b>	AB_1059 ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Aard- en Levenswetenschappen
<b>Coördinator</b>	dr. M.C. van den Oever
<b>Examinator</b>	dr. M.C. van den Oever
<b>Docent(en)</b>	prof. dr. S. Spijker, dr. H.K.E. Vervaeke, dr. M.C. van den Oever
<b>Lesmethode(n)</b>	Practicum, Computerpracticum, Werkgroep, Hoorcollege
<b>Niveau</b>	300

### Doel vak

This course has the purpose to discuss the various stages of brain development that shape the life of individuals over time.

### Inhoud vak

The brain performs differently at various ages; the young brain being very plastic, whereas the aging brain is gradually losing its adaptive capacity. At the same time the growing brain can be affected by

developmental diseases and is prone to specific environmental factors, whereas aging diseases easily disturb the adult brain.

In this course we will discuss pre- and postnatal brain development. We will focus both on early development in relation to diseases as autism and schizophrenia, as well as on puberty and adolescence, and issues related to this stage of development, such as the effects on the brain of early drug use (alcohol, nicotine) and sexual orientation and gender identity. In the aging brain, we will discuss healthy brain aging as well as specific diseases of aging, such as progeria and Alzheimer's, considering the factors that determine lifespan.

### Onderwijsvorm

Lectures (36 hours)

### Toetsvorm

Exam (multiple choice questions and open ended questions): 100%

### Literatuur

"Foundations Of Behavioral Neuroscience" by N.R. Carlson (Pearson Education (US)), 8th edition.

Literature on Blackboard.

### Aanbevolen voorkennis

The course 'Cognitive Neuroscience' of the minor 'Brain & Mind' or otherwise basic understanding of neuronal communication and neuro-anatomy.

### Doelgroep

Students of the minor Brain & Mind.

### Overige informatie

This minor course requires a minimum of 25 participants.

## Thesis

<b>Vakcode</b>	E_EOR3_THS ()
<b>Periode</b>	Ac. Jaar (september)
<b>Credits</b>	12.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Fac. der Economische Wet. en Bedrijfsk.
<b>Coördinator</b>	dr. A.A.N. Ridder
<b>Niveau</b>	300

### Doel vak

The thesis is the final stage of the BSc program in EOR in which the student demonstrates her/his abilities to conduct academic research on a specific topic in the field of EOR. The goals are (1) to practice the art of conducting independently academic research; and (2) to record the results of this work in an academic paper.

As part of goal (1) the student needs to formulate the research question, to study the appropriate literature, to develop a mathematical model of the problem, to collect data for validating and or estimating



the model, to analyse the model using acquired skills and techniques, to implement and verify scientific computer programs, and finally to come up with solutions that could be based on analytical, numerical, or empirical methods.

As part of (2) the student needs to be able to write a professional paper that describes clearly the research questions, the research design, the related literature, the used methodology, the results, and the conclusions.

### **Inhoud vak**

The thesis research is supervised by a faculty member of the EOR department. All faculty members have a list of possible topics, usually a topic is related to a paper published in a scientific journal. All these lists are published on the Blackboard site of the thesis. You choose a topic (or paper) by using the enroll tool in Blackboard. Ofcourse, the topic and faculty member belong to the discipline of your specialization of graduation. To see these lists, make sure that you register for the Thesis via VuNet so that you are also enrolled as user of the Blackboard site of the thesis. Furthermore, this site contains important information on the thesis procedures, and it contains documents concerning the thesis formatting and editing style.

When you have chosen your thesis topic/paper, you contact the concerning faculty member to discuss further details and the timeline. He or she will supervise you in all aspects concerning a thesis. In the end however, conducting the thesis research and writing your thesis report, on time, are activities for which you are ultimately responsible yourself.

Your thesis will be graded by your supervisor and by a co-reader. The co-reader is also a faculty member of the EOR department, and is assigned by your supervisor. The following aspects are part of the assessment criteria and shall receive due consideration.

- Research question: formulate clearly the research problem (maybe with subproblems).
- Positioning in literature: review relevant studies.
- Research design: address the methodological issues, the data collection (if applicable) and the application of theory.
- Description and analysis of results: show understanding of the research question and present a readable derivation of the complex analysis.
- Conclusion and discussion: succeed putting the findings in a wide context.
- Editorial quality: compile a sound academic paper, preferably typeset in LaTeX.
- Degree of independence: show your own initiative and do not always wait for input of your supervisor.

### **Onderwijsvorm**

Individual meetings with your supervisor.

### **Toetsvorm**

Individual assessment by your supervisor and the co-reader.

### **Literatuur**

Academic articles relevant to the topic of your thesis.

### Vereiste voorkennis

Having completed successfully

- 120 ECTS of courses from the EOR bachelor
- among which the part-II course of period 2.4-2.5 for the specialisation of your choice for the thesis

### Overige informatie

In order to receive a proof of graduation before September 1 (necessary for starting a Master in the same year), your thesis should be handed in to your supervisor for grading before July 1. After you receive the greenlight of your supervisor, but before August 1, upload the thesis to the thesis database at the university library.

## Toegepaste Inspanningsfysiologie

<b>Vakcode</b>	B_TIF (900322)
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Fac. der Gedrags- en Bewegingswetensch.
<b>Coördinator</b>	dr. J.J. de Koning
<b>Examinator</b>	dr. J.J. de Koning
<b>Docent(en)</b>	dr. J.J. de Koning, dr. R.T. Jaspers, prof. dr. H.A.M. Daanen
<b>Lesmethode(n)</b>	Hoorcollege, Practicum
<b>Niveau</b>	300

### Doel vak

Het uitbreiden van inspanningsfysiologische kennis en het toepassen daarvan op vraagstukken binnen de sport en gezondheid.

### Inhoud vak

De verhoogde energiebehoefte van het musculaire systeem als gevolg van fysieke activiteit vraagt van verschillende fysiologische mechanismen een zodanige actie dat homeostase van het interne milieu behouden blijft.

Het cardiovasculaire en respiratoire systeem spelen hierin een cruciale rol. De mogelijkheid van deze systemen om in te spelen op de belasting bepaalt in hoge mate de inspanningstolerantie en/of gezondheid van het individu. Er zijn vele factoren die het functioneren van het cardiovasculaire en respiratoire systeem beïnvloeden. Te denken valt aan trainingstoestand, voeding, klimaat, hypo- en hyperbare omstandigheden en sportspecifieke omstandigheden. Daarnaast hebben chronische aandoeningen aan de verschillende systemen grote invloed op de inspanningstolerantie. Ten grondslag aan het functioneren van het musculaire-, cardiovasculaire- en respiratoire systeem liggen de moleculair biologische processen die aanmaak en afbraak van eiwitten reguleren. Inzicht in deze processen maakt duidelijk hoe training en adaptatie aan veranderende omstandigheden werkt. Om de skeletspieren en het cardio-respiratoire systeem goed te laten functioneren is naast training een gebalanceerde voeding noodzakelijk. Aangepaste voeding kan zelfs resultaten van training en herstel bevorderen. In deze cursus wordt aandacht besteed aan factoren die de inspanningstolerantie bepalen, de moleculair biologische processen die trainingseffecten reguleren en de rol van voeding in training en herstel. De aandacht zal

liggen op hoe deze kennis toegepast kan worden binnen sport en gezondheid. De cursus bevat practica waarin de student vertrouwd wordt gemaakt met de interpretatie van integratieve cardio-pulmonaire inspanningstesten, de thermofysiologie en moleculaire technieken.

### Onderwijsvorm

De stof wordt aangeboden in de vorm van hoorcolleges in combinatie met practica. Totaal 168 uur, waarvan 42 uur hoorcollege, 12 uur practicum, 111 uur zelfstudie en 3 uur tentamen.

### Toetsvorm

tentamen

Schriftelijke tentamen met open vragen en meerkeuze vragen. De practica zijn verplicht.

### Literatuur

McArdle, Katch and Katch. Exercise Physiology: Nutrition, energy and human performance. Williams & Wilkins, ISBN 1-6083-1859-1, 7th or 8th edition, 2010/2014.

Molecular Exercise Physiology: an introduction. Edited by Henning Wakerhage. Routledge, 2014, ISBN 978-0-415-60788-9.

Burke & Deakin. Clinical Sports Nutrition. McGraw-Hill Education, ISBN 100070277206, 4th edition.

Materiaal aangeboden via Blackboard

### Vereiste voorkennis

- 900115: Inleiding inspanningsfysiologie (deze kennis wordt bekend verondersteld.)

- 900225: Training en prestatie (voorheen Trainingsfysiologie, code 900210 deze kennis wordt bekend verondersteld)

### Aanbevolen voorkennis

De student moet beschikken over basiskennis van de inspanningsfysiologie (energiesystemen, cardio-pulmonair systeem, training).

### Intekenprocedure

De indeling van werkgroepen/(computer)practica/tutorgroepen etc. vindt plaats via Blackboard.

## Transnational Law in Theory and Practice

<b>Vakcode</b>	R_TL-TP ()
<b>Periode</b>	Periode 2
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Rechtsgeleerdheid
<b>Coördinator</b>	C. Kaupa
<b>Examinator</b>	C. Kaupa
<b>Docent(en)</b>	prof. dr. W.G. Werner
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	300

## **Doel vak**

Learning objectives include: (1) practical insight into the working realities of transnational legal practice; (2) theoretical insight into the changing social and political frameworks that give context to transnational practices; and (3) a sense of how and why transnational law impacts the student in her or his everyday life. Students will develop an awareness and understanding of international law, European law, and cyberlaw, among others, focusing on the way these fields interrelate with respect to transnational legal relations.

The student will

be challenged to develop a critical, scientific perspective on the transnational legal environment. The student will be able to comprehend responsibility for the outcomes of transnational legal processes, and will be able to appreciate the nature of legal argumentation in transnational contexts.

Students will be encouraged to participate in the course of the lectures, with the goal of developing the sort of critical and analytical skills conducive to the practice of transnational law, and to theorizing about transnational global developments. Likewise, students will be exposed to literature drawn from practice and academia, and encouraged to explore the distinct social, political and practical problems posed by transnational controversies. Students will be assigned papers and presentations as ways of enhancing their ability to craft and execute arguments in connection with the material of the course.

## **Inhoud vak**

Transnational Law in Theory and Practice will explore the practice of law in today's transnational legal environment. The course will offer an introductory look at a variety of issues and cases demonstrating transnational problems facing today's lawyers and lawmakers, and will look also at theoretical scholarship giving context to the increasing importance of transnational practice. Individuals, inter-governmental organizations, NGO's, corporations and firms are all increasingly involved with transnational law, in the fields of security, economic law, human rights law, internet law, even sports law, etc. This course will introduce the future lawyer to challenges that arise as a result in practice and theory.

Course content will include exploration of themes such as:

International organizations & transnational law

Transnational security regimes

Transnational law in regional context

Transnational law and cyberspace

Transnational economic & corporate law

Transnational law & legal ethics

Transnational law & the world citizen

## **Toetsvorm**

Paper and presentation

## **Literatuur**

The literature is subject to change, but may be drawn from materials such as the following:

Cases:

Toonen v. Australia (UNHRC), Soering v. UK (ECtHR), The Kadi Case (CJEU), The Shrimp-Turtle Case (WTO); Filartiga & Kiobel (US federal courts), Al-M, 5 Nov 2003 (German Constitutional Court)

#### Treaties/Documents:

The Nuremberg constitutive documents; The UN Declaration on Human Rights; The UN Norms on the Responsibilities of Transnational Corporations; The Rome Statute

#### Scientific articles:

HW Arthurs, A Global code of Legal Ethics for the Transnational Legal Field, Legal Ethics, vol 2 (1999)  
U Beck, "Living in the World Risk Society", Economy & Society, vol 35 (2006)  
H Berman, "World law." Fordham Int'l Law Journal vol 18 (1994)  
L Eslava, "Istanbul Vignettes: Observing the Everyday Operation of International Law." London Review of Int'l Law, vol 2 (2014)  
H Koh, "Why Transnational Law Matters." Penn St. Int'l Law Review, vol 24 (2005)  
R Michaels, "The True Lex Mercatoria: Law Beyond the State" Indiana Journal of Global Legal Studies vol 14 (2007)  
J Nye & R Keohane, "Transnational relations and world politics: An introduction", International Organization (1971)  
H Perritt, "Dispute Resolution in Cyberspace: Demand for New Forms of ADR", Ohio State Journal on Dispute Resolution, vol 15 (2000)  
J Ruggie, "Protect, Respect & Remedy: A Framework for Business and Human Rights", Report of the Special Representative of the UN Sec-Gen on the issue of human rights and transnational corporations and other business enterprises (2011)  
P Sands, Turtles and Torturers, N.Y.U. Journal of Int'l Law & Policy, vol 33 (2000-2001)

#### **Doelgroep**

Apart from regular students, the course is also available for:  
Students from other universities/faculties  
Exchange students  
Contractor (students who pay for one course)

#### **Overige informatie**

The following course objectives are only available in Dutch:

#### Eindtermen bachelor Rechtsgeleerdheid

De afgestudeerde bachelor beschikt over een fundamenteel academisch werk- en denkniveau;

- heeft kennis van en inzicht in de kernleerstukken van de hoofdonderdelen van het geldende recht (in het bijzonder het Nederlandse privaatrecht, staatsrecht, bestuursrecht, strafrecht en internationaal en Europees recht), alsmede de systematiek daarvan, met inbegrip van recente ontwikkelingen
- heeft kennis van en inzicht in het internationale en het Europese recht in hun verhouding tot het nationale recht
- heeft elementaire kennis van Engelse juridische terminologie
- beseft dat het recht zich ontwikkelt en manifesteert in een maatschappelijke context
- heeft kennis van de grondslagen van het (Nederlandse) recht, rechtshistorische en rechtsfilosofische aspecten en heeft besef van de eigen aard van de rechtsbeoefening

De afgestudeerde bachelor beschikt over de volgende (juridische) vaardigheden:

**Analytische vaardigheden**

- lezen, begrijpen en analyseren van juridische, rechtswetenschappelijke en rechtstheoretische teksten en betogen, waaronder jurisprudentie en wetgeving
- kritisch reflecteren op regelgeving, rechtspraak en literatuur, onder meer vanuit rechtshistorisch, rechtsvergelijkend en rechtsfilosofisch perspectief; is in staat om te reflecteren op de grenzen van het vakgebied
- reflecteren op de eigen maatschappelijke verantwoordelijkheid in de maatschappelijke context waarin het recht functioneert
- is in staat om juridische argumentatiestructuren te analyseren en op te zetten

**Probleemoplossende vaardigheden**

- selecteren van juridisch relevante feiten uit een feitencomplex
- selecteren van rechtsregels die bijdragen aan het oplossen van een juridische casus
- oplossen van juridische casus, waaronder begrepen hanteren van een systematische aanpak bij het toepassen van rechtsregels op concrete gevallen

**Communicatieve vaardigheden**

- een gefundeerde en beargumenteerde positie innemen in een maatschappelijk, juridisch debat

**Informatievaardigheden**

- op een efficiënte manier juridische bronnen raadplegen en informatie verzamelen uit juridische (digitale) bibliotheken en databestanden, en de waarde, relevantie en kwaliteit van de informatie beoordelen
- op efficiënte wijze relevante ontwikkelingen bijhouden en kennis actualiseren

## Urban Struggle

<b>Vakcode</b>	S_US ()
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Engels
<b>Faculteit</b>	Faculteit der Sociale Wetenschappen
<b>Coördinator</b>	dr. P.G.S.M. Smets
<b>Examinator</b>	dr. P.G.S.M. Smets
<b>Docent(en)</b>	dr. P.G.S.M. Smets, dr. F. Colombijn
<b>Lesmethode(n)</b>	Hoorcollege, Werkgroep
<b>Niveau</b>	300

**Doel vak**

Students can explain and understand processes of urban struggles concerning different types of inclusion and exclusion. Students obtain or improve their qualitative research skills in general. Students of the minor 'Frontiers of multicultural societies' apply insights obtained during the whole minor to a multicultural fieldwork setting, the cosmopolitan city of Amsterdam.

## Inhoud vak

The majority of the world population lives in cities, which are characterized by a diversity of urban dwellers. Interaction between urbanites with different ethnic, religious, and social backgrounds, and lifestyles is expected to nourish the livability of cities. The social (ethnic, religious) diversity may also form a stimulus to economic development and enhance the economic status of the city dwellers. However, the potential benefit of social (ethnic, religious) diversity for the liveliness and livability of cities is often hampered by the growing gap between the better-off and poorer sections of society. This course will address the mechanisms of spatial, socio-cultural and socio-economic exclusion and inclusion that form the basis of such cleavages. The desirability of certain mechanisms of exclusion and inclusion will be questioned and attention will be paid to interventions by the state and private actors to counter specific types of exclusion or segregation. During this course, students will also be introduced to a number of classical texts in urban studies. Moreover, students will conduct fieldwork looking into contemporary urban struggles in a Dutch urban context.

## Onderwijsvorm

Lectures and tutorial

## Toetsvorm

Assignments (40%), oral presentation (10%) and jointly written final paper (50%).

## Literatuur

Gary Bridge & Sophie Watson (eds.), The Blackwell city reader [second edition], Chichester etc: Wiley-Blackwell. ISBN 978-1-4051-8982-8.

## Aanbevolen voorkennis

Basic knowledge in the social sciences is requested.

## Doelgroep

Obligatory course for students in the minor Frontiers of Multicultural Societies; optional course for 2nd and 3rd year Bachelor's students and Exchange students.

## Overige informatie

Basic knowledge in the social sciences is requested. The course can be taken as part of the minor Frontiers of multicultural societies, but also as an independent course.

## Wetenschapsfilosofie

<b>Vakcode</b>	W_BA_MWET ()
<b>Periode</b>	Periode 2+3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Geesteswetenschappen
<b>Coördinator</b>	dr. ir. G.J. de Ridder
<b>Examinator</b>	dr. ir. G.J. de Ridder
<b>Docent(en)</b>	dr. ir. G.J. de Ridder
<b>Lesmethode(n)</b>	Hoorcollege

**Doel vak**

- Studenten verkrijgen kennis van en inzicht in diverse basisconcepten, problemen, en discussies uit de wetenschapsfilosofie.
- Studenten verwerven vaardigheden om de diverse standpunten in de besproken wetenschapsfilosofische debatten kritisch te evalueren.
- Studenten leren wetenschapsfilosofische aspecten van maatschappelijke discussies over wetenschap, wetenschapsbeleid en de rol van wetenschap in de maatschappij te herkennen en leren hun kennis van wetenschapsfilosofie toe te passen op deze discussies teneinde beredeneerde standpunten in te kunnen nemen.
- Studenten ontwikkelen hun mondelinge en schriftelijke argumentatie- en uitdrukingsvaardigheden verder.

**Inhoud vak**

In dit vak komen centrale thema's uit de wetenschapsfilosofie aan bod, zoals wat wetenschap onderscheidt van niet-wetenschap (het demarcatieprobleem), de aard van wetenschappelijke verklaringen, of wetenschappelijke theorieën ons kennis over de objectieve structuur van de wereld opleveren, de rol van waarden in wetenschap, de bredere verantwoordelijkheden van wetenschappers en de eventuele grenzen van wetenschap.

Deze thema's zullen behandeld worden aan de hand van klassieke en recente literatuur uit wetenschapsfilosofische boeken en tijdschriften. Behalve om het verkrijgen van basiskennis over de wetenschapsfilosofie, draait dit vak ook om het kritisch leren reflecteren op wetenschap en de rol van wetenschap in de maatschappij. Daarom zullen we in de colleges ook steeds zoeken naar concrete toepassingen van de behandelde stof in de actualiteit.

**Onderwijsvorm**

Interactieve hoor- en werkcolleges.

**Toetsvorm**

- Drie individuele thuisopdrachten naar aanleiding van de te bestuderen stof (50%)
- Schriftelijk tentamen (50%)

Voor beide onderdelen moet een voldoende (>5,5) worden behaald.

**Literatuur**

De literatuur bestaat uit twee delen: (1) kernartikelen die de docent beschikbaar zal maken en (2) een achtergrondtekstboek naar keuze.

(1) De kernartikelen komen uit klassieke en recente wetenschapsfilosofische boeken en tijdschriften en zullen gaan over de bovengenoemde thema's.

(2) Eén van de volgende tekstboeken fungeert als achtergrondtekst. Lezing ervan is niet verplicht, maar wel sterk aanbevolen om een beter overzicht te krijgen over het totale gebied van de wetenschapsfilosofie.

- Lisa Bortolotti, *An Introduction to the Philosophy of Science* (Chichester: Polity, 2008) – een evenwichtige inleiding met aandacht voor de bredere maatschappelijke en morele aspecten van wetenschap;
- Peter Godfrey-Smith, *Theory and Reality: An Introduction to the Philosophy of Science* (Chicago: U of Chicago Press, 2003) – een grondige en goed leesbare inleiding met aandacht voor zowel de klassieke thema's



als voor recente ontwikkelingen;

- Samir Okasha, *Philosophy of Science: A Very Short Introduction* (Oxford: Oxford UP, 2002) – een kort maar toch redelijk volledige overzicht van het veld;
- Alex Rosenberg, *Philosophy of Science: A Contemporary Introduction*, 2nd ed. (London: Routledge, 2005) – ook een grondige inleiding waarin alle klassieke thema's goed uiteengezet worden.

#### Vereiste voorkennis

geen

#### Doelgroep

Studenten van de minor Filosofie; premasterstudenten

### Wijsgerige vorming 2: Wetenschapsfilosofie

<b>Vakcode</b>	X_428002 (428002)
<b>Periode</b>	Periode 4
<b>Credits</b>	3.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	prof. dr. H.W. de Regt
<b>Examinator</b>	prof. dr. H.W. de Regt
<b>Lesmethode(n)</b>	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
<b>Niveau</b>	300

#### Doel vak

3F, 3-SBI

#### Inhoud vak

Het college behandelt moderne opvattingen met betrekking tot aard en methode van de natuurwetenschappen; hun ontwikkeling; hun relatie met praktijk; en de normatieve aspecten van wetenschapsbeoefening. Deze thema's worden steeds behandeld aan de hand van concrete voorbeelden uit de natuurwetenschappen.

De leerdoelen van de cursus bestaan uit het opdoen van wetenschapsfilosofische kennis, het kunnen toepassen van deze kennis op je eigen vakgebied, en aan de hand hiervan reflecteren reflectie op je vak. De kennis die aan bod komt in de cursus bestaat uit verschillende visies over wetenschapsfilosofische onderwerpen, zoals de wetenschappelijke methode, realisme, empirisme, reductionisme, het doel van de wetenschap, wetenschappelijke verklaringen, en de grenzen van de wetenschap. Het hoofdoel van de cursus is dat je door het toepassen van deze wetenschapsfilosofische onderwerpen op de wetenschappelijke praktijk van je vakgebied een onderbouwde en genuanceerde visie kunt geven over de waarde van de kennis die je in je studie aangeboden krijgt, over de status van wetenschap in onze samenleving, en over je toekomstige verantwoordelijkheid in de beroepspraktijk. Een nevendoeel van de cursus is dat je vaardigheden ontwikkelt op het gebied van tekstanalyse en kritische discussie.

Eindtermen:

- Kennis en begrip van de belangrijkste wetenschapsfilosofische visies met betrekking tot doel en methode van wetenschap.

- Vaardigheid om deze kennis en begrip toe te passen op het eigen vakgebied (de aardwetenschappen), en problemen die in de latere beroepspraktijk
- Vorming van een goed onderbouwd eigen oordeel over de waarde van wetenschappelijke kennis en eigen verantwoordelijkheid in de beroepspraktijk.
- Vaardigheden op het gebied van tekstanalyse en kritische discussie.

### Onderwijsvorm

De cursus is opgezet rond concrete voorbeelden uit je eigen vakgebied: dilemma's waar je in je latere beroepspraktijk mee te maken kunt krijgen. Een professionele benadering hiervan doet een beroep op je vermogen tot academische oordeelsvorming. Meer concreet volg je in deze cursus hoor-, werk-, en responsiecolleges, schrijf je in een groep van drie studenten een verslag over de wetenschappelijke methode, en schrijf je individueel een afsluitend essay over realisme of verklaring. In de hoorcolleges wordt een inleiding gegeven op de te bestuderen literatuur. In de werkcolleges wordt de literatuur bediscussieerd aan de hand van opdrachten, worden vaardigheden getraind en worden tussentijdse toetsen afgenomen die meetellen voor het eindcijfer. In de responsiecolleges wordt er hulp geboden bij het schrijven van het essay.

Contacturen: 20 uur (5 hoor-, 3 werk- en 2 responsiecolleges)

### Toetsvorm

Het eindcijfer voor de cursus is een gewogen gemiddelde van drie deelcijfers: een tussentijdse toets (20%), een groepsverslag (30%) en een individueel afsluitend essay (50%).

### Literatuur

Het te gebruiken leerboek zal voor aanvang van de cursus via Blackboard bekend worden gemaakt, en beschikbaar zijn via VU-boekhandel en de studieverenigingen.

E-reader met artikelen zal bij het begin van de cursus via Blackboard beschikbaar zijn.

### Doelgroep

3F, 3-SBI

### Overige informatie

Inlichtingen bij de docent: prof.dr. H.W. de Regt, email: [h.w.de.reg@vu.nl](mailto:h.w.de.reg@vu.nl), tel. 020-5984156.

## Workshop Mathematical Modelling

<b>Vakcode</b>	X_401062 (401062)
<b>Periode</b>	Periode 3
<b>Credits</b>	6.0
<b>Voertaal</b>	Nederlands
<b>Faculteit</b>	Faculteit der Exacte Wetenschappen
<b>Coördinator</b>	dr. R. Planque
<b>Examinator</b>	dr. R. Planque
<b>Docent(en)</b>	dr. R. Planque, dr. ir. M.A. van de Wiel
<b>Lesmethode(n)</b>	Hoorcollege
<b>Niveau</b>	400

**Doel vak**

Het doel van dit vak is om een indruk te krijgen hoe het is om aan een nog niet opgelost wiskundig probleem te werken. Andere doelen zijn het oefenen in groepswork en de mondelinge en schriftelijke presentatie van resultaten.

**Inhoud vak**

Dit vak is een intensieve workshop van vier weken, waarbij de studenten in groepen van 5 à 6 zelf een probleem uit een ander wetenschapsgebied of uit de industrie verkennen, wiskundig modelleren en analyseren. De probleemstellingen zijn open geformuleerd er is geen a priori sturing richting bepaalde deelgebieden van de wiskunde. In de vierde week wordt het werk afgerond met een presentatie en een verslag.

**Onderwijsvorm**

Project

**Toetsvorm**

Beoordeling van werkwijze, presentatie en verslag.

**Doelgroep**

3W, 3-WN, mMath, mPhys