Business Analytics BSc

Vrije Universiteit Amsterdam - Faculteit der Exacte Wetenschappen - B Business Analytics - 2017-2018

Business Analytics (BA) is a multidisciplinary program aimed at solving quantitative business problems. The combination of mathematical, and information technological methods plays an important role in this program, with the ultimate goal to improve and optimize business processes.

You are trained in identifying and solving problems in a very diverse field. Three disciplines, mathematics, computer science and economics contribute to such training. In addition to basic courses in these disciplines, a number of interdisciplinary courses and practice-oriented components are part of the study.

Characteristic for Business Analytics is its focus on the entire process of solving business problems. Starting with data you obtain insight in the underlying problems and formulate key business components with mathematical models. Such models will typically be analyzed and optimized using mathematics and computer science. You also learn how the solution can be implemented and what obstacles may play a role. In short, you keep working on all aspects involved in improving business processes.

More information

-All compulsory courses and electives you find in the year schedule;
-A complete description of the programme you find in the Teaching and Examination Regulations;
-For more information about the programma you can contact the academic advisor (VU students only);
-As a VU student you need to register for all courses via VUnet. Only after you completed your enrollment for the study programme you can register for courses;
-More information on all the courses you find through the links below.

Inhoudsopgave

B Business Analytics expired courses

Vakken:

Naam	Periode	Credits	Code
Machine Learning	Periode 4	6.0	X_400154

B Business Analytics Honours programme

Opleidingsdelen:

- Interdepartmental Honours Courses

Vakken:

Naam	Periode	Credits	Code
Honours project Business Analytics	Ac. Jaar (september)	6.0	X_417011

Interdepartmental Honours Courses

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 have to choose at least 12 credits of Interdepartmental honours courses from the overview of interdepartmental honours courses, as well as an application form, at: http://www.vu.nl/honourscourses.

B Business Analytics year 1

First year for students started in 2017/2018.

During the first year you will be become acquainted with the three main components of the study: Mathematics, Computer Science and Economics. Possibly, you may get the impression that mathematics is over-represented in the first year. This is unavoidable, as the math that you
learn in the first year is essential for many courses in the second and third year of the program. During the first year, you will participate in three projects, which have the goal to apply your theoretical knowledge to practical and business oriented situations.

The first year consists of 60 EC of compulsory courses.

Opleidingsdelen:

- Compulsory general Courses
- Compulsory Courses

Compulsory general Courses

Vakken:

Naam	Periode	Credits	Code
Blusinstructie: Theorie	Periode 1	0.0	X_000003
Mentoraat / Tutoraat	Ac. Jaar (september)	0.0	X_000008

Compulsory Courses

Vakken:

Naam	Periode	Credits	Code
Accounting	Periode 5	6.0	E_IBA1_ACC
Calculus 1	Periode 1	6.0	X_400635
Calculus 2	Periode 2	6.0	X_400636
Introduction to Business Analytics	Periode 1+2	6.0	X_400619
Introduction to Programming (Java)	Periode 1+2	6.0	X_400634
Linear Algebra	Periode 4+5	6.0	X_400042
Operations Research	Periode 4	6.0	X_400618
Probability Theory	Periode 4+5	6.0	X_400622
Project Business Analytics 1	Periode 3	3.0	X_400316
Project Business Analytics 2	Periode 6	3.0	X_400572
Risk Management	Periode 6	3.0	X_400578
Sets and Combinatorics	Periode 3	3.0	X_400621

B Business Analytics year 2

Second year for students started in 2016/2017.

The second year consists of 60 EC of compulsory courses.

Opleidingsdelen:

- Compulsory Courses

Compulsory Courses

Vakken:

Naam	Periode	Credits	Code
Advanced Programming	Periode 1	6.0	X_400561
Business Intelligence and Analytics	Periode 4	6.0	E_IBK3_BIA
Business Simulation	Periode 3	6.0	X_401006
Databases	Periode 5	6.0	X_401008
Dynamics and Computation	Periode 4+5	6.0	X_400647
Finance	Periode 2	6.0	E_IBA2_FIN
Project Big Data	Periode 6	6.0	X_400645
Statistical Data Analysis	Periode 4+5	6.0	X_401029
Statistics	Periode 1+2	6.0	X_400004
Stochastic Modeling	Periode 1+2	6.0	X_400646

B Business Analytics year 3

Third year for students started in 2015/2016

There are 30 EC of compulsory courses in this year. The remaining 30 EC consists of a minor. You can choose

a. the Business Analytics minor
b. the Education minor (in Dutch)
c. one of the university minors

Opleidingsdelen:

- B Business Analytics minor programmes
- B Business Analytics year 3 compulsory courses

B Business Analytics minor programmes

Opleidingsdelen:

- Universiteitsminoren
- Educatieve minor Wiskunde
- Minor Business Analytics

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 Sustainability: Global Challenges, Interdisciplinary Solutions
- Minor Sport, Bewegen en Gezondheid
- Minor Business Administration
- Minor Global Food Security
- Minor Managing Digital Innovation
- Minor Economics
- Minor Islam
- Minor Digital Humanities and Social Analytics
- Minor in English
- Minor Gender and Diversity
- Minor History
- Minor Aan de slag met Literatuur
- Minor Migration Studies
- Minor Psychologie en het Brein
- Minor Law and Global Society
- Minor Technology, Law and Ethics
- Minor Development and Global Challenges
- Minor Political Science
- Minor Filosofie

Minor Brain and Mind

Vakken:

Naam	Periode	Credits	Code
Brain in Trouble	Periode 2	6.0	AB_1038
Cognitive Neuroscience	Periode 1	6.0	AB_1056
Mind and Machine	Periode 3	6.0	AB_1060
Nature versus Nurture	Periode 1	6.0	AB_1057
The Developing Brain	Periode 2	6.0	AB_1059

Minor Sustainability: Global Challenges, Interdisciplinary Solutions

Vakken:

Naam	Periode	Credits	Code
Designing Solutions for Global Sustainability	Periode 3	6.0	AB_1231
Governance of Global Sustainability	Periode 1	6.0	AB_1229
Grand Challenges for Sustainability	Periode 1	6.0	E_IBA3_GCS

Sustainability and Environmental Change	Periode 2	6.0	AB_1230
Sustainable Supply Chain Management	Periode 2	6.0	E_IBA3_SSCM

Minor Sport, Bewegen en Gezondheid

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 Coordinatie	Periode 2	6.0	B_SENSOCOR
Sportpsychologie	Periode 1	6.0	B_SPORTPSY
Talent and Talent Identification	Periode 3	6.0	B_TALIDENT
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
Business Model Innovation	Periode 1	6.0	E_MB_BMI
Business Professionals	Periode 2	6.0	E_MB_BPROF
Business Project	Periode 3	6.0	E_MB_BPROJ
Foundations of Business Administration	Periode 1	6.0	E_MB_FBA

Minor Global Food Security

Global food security is at the core of many of today's societal problems, varying from undernourished children to obese adults and elderly; climate change presents a challenge for future food production; novel technologies raise ethical questions with respect to animal welfare, preservation of biodiversity, and protection of national policy autonomy. These and many other societal issues are part of the content of this course. These insights will be useful to a variety of academic and societal fields, and may help you to choose your master's programme.

This minor takes real world problems as a starting point. Examples, assignments and (guest)lectures will be based on the variety of actual challenges related to food security. Throughout the minor, culminating in an advisory report in the last course, you will conduct an assignment for a real organization active in the field of food security; e.g. the Ministry of Economic Affairs; Oxfam Novib; FrieslandCampina.

Jobs are increasingly about combinations of insights and skills rather than specialized knowledge only. In this minor you will acquire skills and insights from different scientific backgrounds to be able to conduct interdisciplinary research. The fact that this minor is offered by the Amsterdam Centre for World Food Studies, an institute that brings together researchers from different faculties of the VU to conduct inter- and transdisciplinary research on food security, guarantees the richness of skills and methods taught.

Vakken:

Naam	Periode	Credits	Code
Agriculture for Food and Nutrition Security	Periode 1	6.0	E_MG_AFNS
Applications in Food and Nutrition Security Analysis	Periode 3	6.0	E_MG_AFNSA

Challenges of Food and Nutrition Security	Periode 1	6.0	E_MG_CFNS
Economics and Politics for Food and Nutrition Security	Periode 2	6.0	E_MG_EPFNS
Food and Quality of Life	Periode 2	6.0	E_MG_FQL

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**
Business Intelligence and Analytics	Periode 2	6.0	E_MM_BIA
Ethics of Algorithms	Periode 3	6.0	E_MM_ETHA
Introduction to Digital Innovation	Periode 1	6.0	E_MM_IDI
New Ways of Working	Periode 2	6.0	E_MM_NWW
Strategic Management of Technology and Innovation	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
Applications in Economic Policy: Policy Analysis, Formulation and Evaluation	Periode 3	6.0	E_ME_AEP
Business Cycles and Stabilization Policy	Periode 2	6.0	E_ME_BCSP
Development of Macroeconomic Thought	Periode 1	6.0	E_ME_DMT
Foundations of Microeconomics	Periode 1	6.0	E_ME_FM
Structural Policy	Periode 2	6.0	E_ME_SP

Minor Islam

Vakken:

Naam	Periode	Credits	Code
Hadith-wetenschappen	Periode 2	6.0	G_HADITHW
Inleiding in de Koran en Soenna	Periode 1	6.0	G_INLKOSO
Islam en Europese cultuur	Periode 1	6.0	G_ISLEURCUL
Islamitische ethiek	Periode 3	6.0	G_ISLAMET
Islamitische theologie/Kalam	Periode 2	6.0	G_ISLMTHKAL

Minor Digital Humanities and Social Analytics

Vakken:

Naam	Periode	Credits	Code
Digital Humanities and Social Analytics in Practice	Periode 3	6.0	L_AABAALG048

Digitization: from Life to Data (UvA)	Periode 1	6.0	L_AABAUVA008
Introduction to Information and the Digital (UvA)	Periode 1	6.0	L_AABAUVA001
Programming for Humanities and Social Sciences	Periode 2	6.0	L_AABAALG069
Text Mining for Digital Humanities	Periode 2	6.0	L_PABAALG004
Visualizing Humanities and Social Analytics	Periode 2	6.0	L_AABAALG066

Minor in English

Vakken:

Naam	Periode	Credits	Code
Global English	Periode 1	6.0	L_ETBAETK209
Minor English: English in my own Discipline	Periode 3	6.0	L_ETBAALG008
Minor English: Grammar and Writing 1	Periode 1	6.0	L_ETBAALG007
Minor English: Pronunciation and Presentation	Periode 2	6.0	L_EABAALG006
Minor English: Writing 2	Periode 2	6.0	L_ETBAALG005

Minor Gender and Diversity

In this multidisciplinary minor you will learn how to critically perceive contemporary discussions in science and society from the perspective of gender and diversity. You will gain knowledge of the relevant theories on gender, race, ethnicity and sexual orientation in the disciplinary fields of history, philosophy, literature, medicine, sociology and anthropology, and theology. You develop a diverse perspective in discussions with students from other disciplines in the classroom. In assignments you apply the knowledge achieved to your own disciplinary field.

Choose 2 out of 3 courses in period 2: American Film; From Cell to Society; Identity, Diversity and Inclusion

Vakken:

Naam	Periode	Credits	Code
American Film: Cinematic Representations of the "Other"	Periode 2	6.0	L_ELBAELK208

Critical Perspectives on Science	Periode 1+2+3	6.0	W_CPOS
From Cell to Society	Periode 2	6.0	W_FCTS
Identity, Diversity and Inclusion	Periode 2	6.0	S_IDI
Religions and Gender	Periode 3	6.0	G_RELGEN
The Personal is Political: Biography, Gender and Diversity	Periode 1	6.0	L_AABAALG068

Minor History

Vakken:

Naam	Periode	Credits	Code
Decolonizing Europe	Periode 2	6.0	L_GCBAALG008
Democracy: A History	Periode 2	6.0	L_GABAGES212
General History	Periode 1	6.0	L_GABAALG013
Imagining the Dutch:themes Dutch History	Periode 1+2	6.0	L_GCBAALG003
Research Tutorial	Periode 3	6.0	L_GABAALG014

Minor Aan de slag met Literatuur

Vakken:

Naam	Periode	Credits	Code
Creative Writing	Periode 2	6.0	L_NNBAALG001
Het boek: papier en digitaal	Periode 1	6.0	L_AABAALG067
Meesterwerken uit de wereldliteratuur	Periode 1+2	12.0	L_AABAALG020
Schrijvershuisbezoeken	Periode 2	6.0	L_NNBAALG002

Minor Migration Studies

Vakken:

Naam	Periode	Credits	Code
Human Rights and Citizenship	Periode 2	6.0	R_HumRC
Human Rights and the Border	Periode 1	6.0	R_HumRB
Introduction Migration Studies	Periode 1	6.0	L_GABAALG011

Migration, Ethnicity and the Economy	Periode 1	6.0	L_GWBAALG002
Nation and Migration	Periode 2	6.0	S_NM
Research Paper Migration Studies	Periode 3	6.0	L_GWBAALG003

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.

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**
Behaviour Genetics	Periode 2	6.0	P_BBEHGEN
Biologische Psychologie (UM)	Periode 2	6.0	P_UBIOPSY
Cognitive Neuroscience	Periode 1	6.0	P_BCOGNEUS
Inleiding Psychologie (UM)	Periode 1	6.0	P_UINLPSY

Psychophysiological and Cogn. Appl.	Periode 3	6.0	P_BPCAPP

Minor Law and Global Society

Globalisation impacts the way we live. We meet different people, learn about diverse cultures, and internet facilitates world-wide communication and information exchange. Law traditionally focuses on nation states, but topics like migration, internet, climate, and terrorism do not stop at the border. Quite the contrary. The objective of this minor is to become aware of the fact that many societal issues ask for a transboundary approach to law.

The minor explores the role of law in defining and resolving social issues concerning the globalisation of societies. Central topics are migration (transnational movement), internet (transnational communications) and climate change (transnational action).
This minor offers students insight in questions, such as:
• Why transnational issues are not suited for unilateral, national actions;
• What states can do within international law (such as European Union law);
• The ways in which states are currently responding to these issues;
• The criticism of the current actions and regulations;
• Future perspectives.
After completing this minor, the student has knowledge of the core of the legislation concerning the three topics, has gained insight in the most important critique and analysis of this legislation (from a legal, policy-orientated, sociological, anthropological and/or philosophical perspective), and is capable of critically judging proposed changes. For each of the topics the student knows which actors play a role in making rules and policy, how states work together (or not), the consequences of this (lack of) cooperation and the future perspective for transnational regulations in migrations, climate change and internet. Knowledge of these ‘case studies’ and the theory involved also enables student to independently reflect on other areas of transnational problems, such as security.

Vakken:

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

Minor Technology, Law and Ethics

Vakken:

Naam	Periode	Credits	Code
Data Analytics and Privacy	Periode 2	6.0	R_DAP
Governance and Regulation of Emerging Technologies	Periode 1	6.0	R_GRET
Law and Ethics of Reproductive Technologies	Periode 3	6.0	R_LERT
Philosophy and Neuroethics	Periode 2	6.0	W_BA_PNEU
Robot Law and Artificial Intelligence	Periode 1	6.0	R_RLAI

Minor Development and Global Challenges

Vakken:

Naam	Periode	Credits	Code
Development and Globalization	Periode 1	6.0	S_DG
Environment and Development	Periode 1	6.0	S_ED
Global Political Economy	Periode 2	6.0	S_GPE
Identity, Diversity and Inclusion	Periode 2	6.0	S_IDI
Minor's Tutorial in Development and Global Challenges	Periode 1+2+3	0.0	S_MWDCG
Urban Studies	Periode 1+2+3	6.0	S_UBS

Minor Political Science

Vakken:

Naam	Periode	Credits	Code
Comparative Political Research	Periode 1	6.0	S_CPR
EU Governance in an International Context	Periode 2	6.0	S_EUGIC
Global Political Economy	Periode 2	6.0	S_GPE
Research Project Political Science	Periode 2+3	6.0	S_RPPS
State, Power and Conflict	Periode 1	6.0	S_SPC

Minor Filosofie

Vakken:

Naam	Periode	Credits	Code
Ethics 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 II	Periode 2	6.0	W_BA_PHMII
Wetenschapsfilosofie	Periode 1	6.0	W_BA_MWET

Educatieve minor Wiskunde

Opleidingsdelen:

- Educatieve Minor verplicht

Educatieve Minor verplicht

Vakken:

Naam	Periode	Credits	Code
Educatieve Minor Didactiek 1	Periode 1	6.0	O_EMDID1
Educatieve Minor Didactiek 2	Periode 2+3	9.0	O_EMDID2
Educatieve Minor Praktijk 1	Periode 1	6.0	O_EMPRAK1
Educatieve Minor, Peergroep	Periode 1+2+3	0.0	O_EMPEERGR

Minor Business Analytics

Vakken:

Naam	Periode	Credits	Code
Bedrijfsmodellering en requirements engineering	Periode 1	6.0	X_401005
Data Structures and Algorithms	Periode 1	6.0	X_400614
Heuristics	Periode 3	6.0	X_401012
Mathematical Optimization	Periode 2	6.0	XB_41001
Service Logistics	Periode 2	6.0	X_401084

B Business Analytics year 3 compulsory courses

Vakken:

Naam	Periode	Credits	Code
Bachelor Project: Business Case	Periode 4+5+6	12.0	XB_41000
Business Intelligence and Analytics	Periode 4	6.0	E_IBK3_BIA
Combinatorial Optimization	Periode 4+5	6.0	X_401067
History of Science	Periode 4	3.0	X_400652
Philosophy	Periode 5	3.0	X_400433

Accounting

Vakcode	E_IBA1_ACC ()
Periode	Periode 5
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. J.P. Mendoza Rodriguez
Examinator	dr. J.P. Mendoza Rodriguez
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	100

Doel vak
On an abstract level, this course teaches you to how to read, examine, and appraise an economic event to identify and extract information relevant for accountants (Academic Skills). More specifically, after this course you will have an understanding of importance of accounting information for companies. You will know that there are various types of stakeholders, each with specific information needs and that there are several types of accounting techniques and methods available to meet their information requirements.
(Knowledge).
This course does not only offer you fundamentals in terms of theory, but also teaches you how these theories explain management decisions. Besides that, this course also gives a basic understanding of the relevance
of your knowledge for practice. Moreover, it will offer you a first outlook on the accounting profession for your future careers (Bridging Theory and Practice).
In light of the recent discussions on the role of accounting in the business field and the global debate on the role of accountants, this course also aims to create the understanding that the accounting profession is not
static but is influenced by current events, changing values and new insights (Broadening your Horizon). Finally, a large part of this course is dedicated to
the discussion of the rules that are used to determine financial

performance of a firm and
find the value of assets and liabilities at the year end or any other specific date (Quantitative skills).

Inhoud vak
Have you ever thought that why financial analysts are able to predict the firm performance well in advance while others wait till the earnings announcements date? Why some investors are able to quickly identify and reap the benefits of mispricing in the international financial markets while others earn only the left over? Why some fund managers are able to build internationally diversified portfolios of stocks while others rely on the performance of local markets. One important thing that is common in these successful financial analysts, investors and fund managers is their ability to understand and analyze accounting information.
Accounting has two major branches, the Financial Accounting and Management Accounting. Financial Accounting starts with introduction of bookkeeping, however, Financial Accounting is much more than just the bookkeeping.
Financial Accounting is mainly concerned with communicating a firm's performance to external parties especially the current and prospective investors of a firm. The information provided by Financial Accounting assists its users in understand how efficiently a firm's assets are being utilized, whether a firm is heading towards financial difficulties, whether a firm would be able to sustain its current performance, whether a firm would be able to finance its future expansion plans and much more. Financial Accounting also makes it possible to comparison of a firm's performance with its own historical performance, the performance of its local peers and, thanks to the introduction of International Financial Reporting Standards, with that of its peer working internationally.
Management Accounting focuses on creating information that is used internally by firm managers. The information generated by Management Accounting assists firm managers in planning for future, getting a better control over firm performance, making right decisions and achieving a firm's goals.
This course is the first step to equip you with the tools and techniques that are necessary to create, comprehend and evaluate information generated by Financial and Management Accounting.

Onderwijsvorm
Lectures
Tutorials

Toetsvorm
Interim exam – Individual assessment
Written exam – Individual assessment
Mandatory attendance tutorials

Literatuur
Literature
J.J. Weygandt, P.D. Kimmel and D.E. Kieso, Financial & Managerial Accounting, publisher Wiley, 2e edition 2015, ISBN 13-978-1-118-33426-4.
Additional reading will be announced on Canvas.

Research papers available on Canvas

Aanbevolen voorkennis

Students are expected to have a good understanding of basic algebra and ratio proportion techniques taught in 1.1 Business Mathematics.

Advanced Programming

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

Agriculture for Food and Nutrition Security

Vakcode	E_MG_AFNS ()

Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. ir. B.G.J.S. Sonneveld
Examinator	dr. ir. B.G.J.S. Sonneveld
Lesmethode(n)	Hoorcollege, Werkgroep, Computerpracticum
Niveau	200

Doel vak
After successfully completing this course, students will:
• be familiar with main concepts of agronomy relevant for Food and Nutrition Security (FNS) analysis;
• understand the relation between locational (environmental) factors and the food production system;
• understand the relation between food production systems and FNS;
• be able to analyze these relationships with empirical data, including spatial analysis, and to interpret the results;
• be able to critically reflect and communicate on contemporaneous land use issues.

Inhoud vak
- Understanding the interlinkage between locational (environmental) factors and the food production system;
- Understanding the interlinkage between agricultural production systems and food productivity;
- Understanding the position of agriculture in total land use.

Onderwijsvorm
Lectures (7 x 2 hours), workgroups (6 x 4 hours).

Toetsvorm
Exam (60%), assignments (30%), presentation (10%)

Aanbevolen voorkennis
Basics of geography; basics of biology

Doelgroep
Bachelor students interested in Food Security

Overige informatie
In this course you will learn the basic agronomic principles underlying the interlinkages between food production and agricultural production systems on the one hand, and between agricultural production systems and environmental resources on the other hand. Basic principles of crop and livestock production will be introduced, and you will learn how they are employed across different production systems and how they affect the interaction between production systems and the environment. Given that the nature of these linkages also vary across space and time, the course will have an explicit temporal (dynamic and historical) and spatial focus to understand long term trends and diversity in food production and environmental impacts. Also alternative agricultural production systems to the dominant systems currently in used will be discussed, such as low input farming systems, including their potential for up-scaling and sustainability. You will also be taught the basics of GIS and how spatially explicit analysis van be utilized to better understand

land use patterns and production possibilities and restrictions

American Film: Cinematic Representations of the "Other"

Vakcode	L_ELBAELK208 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. R.V.J. van den Oever
Examinator	dr. R.V.J. van den Oever
Docent(en)	dr. R.V.J. van den Oever
Lesmethode(n)	Werkcollege
Niveau	200

Doel vak
Students become acquainted with the study of identity representation in American film.

Inhoud vak
What theoretical questions arise when studying the representation of identity - think of race, gender, sexuality - in American film? Per meeting, we discuss a particular theoretical issue - for instance, stereotyping, the male gaze, character engagement, identity politics, queer subtext - after which students apply this theoretical perspective to an assigned filmic text.

Onderwijsvorm
Seminar meetings, 2 x 2 hours per week.

Toetsvorm
Exam.

Literatuur
To be announced.

Vereiste voorkennis
None.

Doelgroep
This course is part of two minor packages: (1) American Studies; (2) Gender and Diversity. Students from other Bachelor's programs are welcome.

Intekenprocedure
There is a slightly different enrollment procedure for this course. The standard procedure of the Faculty of Humanities has students sign up for (i) the course, (ii) the type of class (lecture and/or preferred seminar group), and (iii) the exam. However, for this course the instructor will assign the students to the seminar groups. Therefore, students should sign up for (i) the course, (ii) the lectures (if applicable), and (iii) the exam, but not for the seminar groups.

There is limited seating in this course. Priority will be given to students of two minor packages: (1) American Studies; (2) Gender and

Diversity. Students from other Bachelor's programs are initially placed on a waiting list.

Overige informatie
The level of English in this course is high.

Applications in Economic Policy: Policy Analysis, Formulation and Evaluation

Vakcode	E_ME_AEP ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. W. Zant
Examinator	dr. W. Zant
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	300

Doel vak
The objective of this course is to develop your capability 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 course are:
• you are able to identify a relevant (economic) policy issue, to motivate the urgency of the issue, and to formulate an appropriate research question;
• you 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;
• you 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;
• you 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;
• you are able to present your findings clearly to academic expert and non-expert audiences;
• you are able to work independently, while incorporating relevant feedback into their work;
• you are able to give constructive feedback to peers.

Inhoud vak
In this intensive period course, you work in a policy area of your choice (e.g. international financial systems and banking regulation, macro policy, development and growth, environment, urban/transport, health, human capital, competition policy, industrial policy). You 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

Applications in Food and Nutrition Security Analysis

Vakcode	E_MG_AFNSA ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. R. de Wildt-Liesveld MSc
Examinator	dr. R. de Wildt-Liesveld MSc
Lesmethode(n)	Hoorcollege
Niveau	300

Bachelor Project: Business Case

Vakcode	XB_41000 ()
Periode	Periode 4+5+6
Credits	12.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	drs. H.J.M. van Goor-Balk
Examinator	prof. dr. G.M. Koole
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	300

Doel vak
The "Bachelor Project: Business Case" consists of three components: Study and Career, Scientific Writing in English and the Business Case.

Study and Career (Period 4)
The goal of Study and Career is to orientate on your possible further study (master's programme) and the job market.

Scientific Writing in English (Period 5)
The aim of Scientific Writing in English is to provide students with the essential linguistic know-how for writing a scientific article in English that is well organized, idiomatically and stylistically appropriate and grammatically correct.

At the end of the course students
- know how to structure a scientific article;
- know what the information elements are in parts of their scientific article;
- know how to produce clear and well-structured texts on complex subjects;
- know how to cite sources effectively;
- know how to write well-structured and coherent paragraphs;
- know how to construct effective sentences;
- know what collocations are and how to use them appropriately;
- know how to adopt the right style (formal style, cohesive style, conciseness, hedging)
- know how to avoid the pitfalls of English grammar;
- know how to use punctuation marks correctly;
- know what their own strengths and weaknesses are in writing;
- know how to give effective peer feedback.

Final texts may contain occasional spelling, grammatical or word choice errors, but these will not distract from the general effectiveness of the text.

Business Case (Period 5 and 6)
The Business Case is characterized by integration and combination of subjects and skills. It is precisely by combining the components that synergistic effects are achieved. The following skills play a dominant role:
1. Analytical skills
2. Synthetic skills
3. Creativity
4. Developing initiatives
5. Social skills
6. Presentations skills
7. Writing skills

The goal of the Business Case is to develop and stimulate these skills. All seven components are therefore involved in the final assessment.

Inhoud vak
To take part in the Business Case, the student must have completed Study and Career sufficient before the start of period 5. In period 5 the student must also complete Scientific Writing in English sufficient to receive the grade for the Business Case at the end of period 6.

Study and Career (Period 4)
Study and Career consists of individual and group orientation about further study and job market. We will discuss vacancies, cover letter, curriculum vitae, Inhousedays, social networking, LinkedIn, etc. The student wil present this both orally and in writing.

Scientific Writing in English (Period 5)
The course will start with a general introduction to scientific writing in English. Taking a top-down approach, we will then analyse the structure of a scientific article in more detail. As we examine each section of an article, we will peel back the layers and discover how paragraphs are structured, what tools are available to ensure coherence within and among paragraphs, how to write effective and grammatically correct sentences and how to choose words carefully and use them effectively.

Topics addressed during the course include the following:
- Structuring a scientific article
- Considering reading strategies: who is your readership? How do they read your text? What do they expect? How does that affect your writing?
- Writing well-structured and coherent paragraphs
- Composing effective sentences (sophisticated word order, information distribution).
- Arguing convincingly – avoiding logical fallacies
- Academic tone and style: hedging – why, how, where?
- Using the passive effectively
- Understanding grammar (tenses, word order, etc.)
- Understanding punctuation
- Referring to sources: summarising, paraphrasing, quoting (how and when?)
- Avoiding plagiarism
- Vocabulary development: using appropriate vocabulary and collocations

Business Case (Period 5 and 6)
In period five, students get acquainted with a company where typical Business Analytics problems are to be found. They get an assignment that must be done in groups of 4 to 5 persons. The solution has mathematical-statistical, computer-technical and more general business aspects. In addition to the technical side (analysis, solution) there is also a lot of attention for the written and verbal presentation and project management including a mandatory workshop Project Management and Consultancy. In period 5 the students will work on the preliminary research: the company visit, the mission formulation, planning, methods, literature, etc. In period 6 the students will work full time on the assignment.

Onderwijsvorm
Study and Career (Period 4)
Study and Career consists of five sessions spread over eight weeks, including three meetings from two hours, one meeting of four hours, and one afternoon to visit a company.
In addition, students will have to prepare the meetings using the assignments on Canvas.

Scientific Writing in English (Period 5)
Scientific Writing in English is an eight-week course and consists of 2 contact hours a week. Students are required to spend at least 6 to 8 hours of homework per week. They will work through a phased series of exercises that conclude with the requirement to write several text parts (Introduction, Methods, Discussion and Abstract). Feedback on the writing assignments is given by the course teacher and by peers.

Business Case (Period 5 and 6)
The Business Case consists of a kick-off in the first week and in the second week of a workshop about Project Management & Consultancy and also the company visite to learn more about the assignment. Furthermore, there are two presentation moments planned in period 5 and two presentation moments in 6 period. In the last week of period 6 the students will present their research, results and recommandations at the company.

At the same time the students will work independently on their case with their own group in periods 5 and 6 and they have a weekly meeting in the presence of the university supervisor. The student is expected to spend

more than 10 hours a week working on the Business Case in period 5 and full time in period 6.

Toetsvorm
Study and Career (period 4)
The student has:
- To attend all the classes of Study and Career.
- To hand in all the assignments via Canvas.
- To participate during the meetings.
- To give an oral presentation about the interview.

Scientific Writing in English (Period 5)
Students will complete Scientific Writing in English when they meet the following requirements:
- Students hand in three writing assignments (Introduction, Methods, Discussion)
- Students get a pass mark for all writing assignments;
- Students provide elaborate peer feedback (Introduction, Methods, Discussion, Abstract);
- Students attend at least 7 out of 8 sessions;
- Students are well prepared for each session (i.e. do all homework assignments);
- Students participate actively in class;
- Students do not plagiarise or self-plagiarise.

Writing assignments:
1. If students have written a paper or report in English that's not already in article form, they may use this for the writing assignment.
2. If students cannot or do not wish to use the above-mentioned text for the writing assignments (1-4), they are expected to do a limited Literature Review on a topic in their field of research, using at least 5 articles.

Students are not allowed to use the following texts for the writing assignments:
1. A BSc thesis written in English that's already in article form.
2. A MSc thesis written in English that's already in article form (and that has already been marked).
3. An internship report written in English that's already in article form (and that has already been marked).
4. A paper or report written in English that's already in article form.

Business Case (Period 5 and 6)
The assessment of individual students will take place:
- Throughout the entire process in period 5 and 6 during classroom activities between the case group and the supervisor (meetings and presentations).
- Using the peer review forms filled out by fellow group members at the end of period 5 and period 6.
- During the final individual assessment and discussion between the student and the supervisor.

Literatuur
Scientific Writing in English
Effective Scientific Writing: An Advanced Learner's guide to Better English, 3rd edition (June 2013) (A. Bolt & W. Bruins, ISBN 978 90 8659 617 1). VU bookstore: €27.95.

Vereiste voorkennis
Statistical Data Analysis (X_401029), Project Big Data (X_400645) and at least 120 ec at the end of period 2 in the same academic year the student wants to do the "Bachelor Project: Business Analytics".

Doelgroep
3BA

Intekenprocedure
A VUnet registration for this course automatically gives access to the corresponding Canvas site.

Overige informatie
To do well, students are expected to attend all lessons.

Scientific Writing in English
- Make sure Scientific Writing in English does not overlap with another course.
- Group registration only takes place via Canvas
- If you have registered for a group in Canvas, you are expected to attend all sessions. If you decide to withdraw from the course, do so in time in VUnet. This all will avoid a 'fail' on your grade list for not taking part in this course and allows other students to fill in a possible very wanted group spot.

prof. dr. G.M. Koole
prof. dr. R.D. van der Mei
Prof. dr. M.C.M. de Gunst
dr. R. Bekker
dr. B.L. Gorissen
dr. M. Hoogendoorn
drs. H.J.M. van Goor-Balk
M. van den Hoorn

Bedrijfsmodellering en requirements engineering

Vakcode	X_401005 (401005)
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. H. Leopold MSc
Examinator	dr. H. Leopold MSc
Docent(en)	dr. H. Leopold MSc
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	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.

Doelgroep
2IMM, 3BA

Behaviour Genetics

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

Doel vak
The aim of this course is to introduce students to behavior genetics as applied to psychological variables. The students will learn what questions behavior genetics addresses, and how these questions are answered using the classical twin design, and
some extensions of this design. The course includes practicals in which you will analyze real and simulated twin data using the R library OpenMx.

Inhoud vak
This course will include explanation of the following:

1) The biometric model, underlying the twin and family designs which are used to
infer the role of genetic and environmental effects from family resemblance).
2) Univariate and multivariate modeling of twin data using OpenMx (an R

library) in the programming environment R
3) The meaning of gene-environment interplay (genotype X environment interaction, and genotype -environment correlation) and to model these in the classical twin design.
4) Detailed discussions of applied papers and papers concerns the statistical background of the twin design.

Onderwijsvorm
Lectures and computer practicals

Toetsvorm
A exam consisting of open and multiple choice questions and take-home computer assignments which are based directly on the computer practicals.

Literatuur
Articles + book chapters

Vereiste voorkennis
Please note: this course includes a statistical component.
You are expected to have a basic practical understand of correlation, linear regression and basic descriptive statistics, such as means, variance, standard deviation.
Some experience in the use of statistical programs like SPSS is useful.
Knowledge of R is an advantage.
However, the practicals include explanation of R (using the R studio interface).

Biologische Psychologie (UM)

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

Toetsvorm
Tentamen

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

Blusinstructie: Theorie

Vakcode	X_000003 ()
Periode	Periode 1
Credits	0.0
Voertaal	Nederlands
Faculteit	Faculteit der Exacte Wetenschappen
Lesmethode(n)	Hoorcollege
Niveau	100

Brain in Trouble

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

Course coordinators are Hylke Vervaeke and Taco de Vries

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 Canvas

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.

Intekenprocedure
Groups for Class Discussions and Home-work Assignments via Canvas

Overige informatie
Central Academic Skill: Debating and discussing

Business Cycles and Stabilization Policy

Vakcode	E_ME_BCSP ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. M. Mastrogiacomo
Examinator	dr. M. Mastrogiacomo
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	200

Doel vak
The objective of the course is to introduce you to the theory and practice of macroeconomic and monetary policy, including regulation of the financial system. This course is complementary to the parallel course of Structural Policy. It is highly recommended to take both courses.

Specific learning outcomes upon completion of this course 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 and 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 and is suggested to be taken together with the course of Structural Policy that runs in parallel.

Onderwijsvorm
Lectures, guest lectures and working groups

Toetsvorm
Grade is average of problem sets (30 %) and written examination (70%), with written exam grade of at least 5.0. To those who participate into less than four compulsory tutorials and/or do not deliver their tutorial work, one point will be subtracted from the final grade.

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.

Aanbevolen voorkennis
Development of Macroeconomic Thought

Business Intelligence and Analytics

Vakcode	E_IBK3_BIA ()
Periode	Periode 4
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	M. Shafeie Zargar

Examinator	M. Shafeie Zargar
Lesmethode(n)	Hoorcollege, Werkcollege, Instructiecollege, Responsiecollege
Niveau	300

Doel vak
Being able to define, describe and recall the basic concepts, principles and theories underlying business intelligence & analytics solutions (decision support systems). Also, to classify and compare business intelligence & analytics solutions as well as the constituent components of business intelligence & analytics solutions (Academic Skills).

Become proficient at exploring data-driven business models and to apply business intelligence & analytics concepts, principles and theories to business problems (Quantitative Skills).

Learn to explore, analyze and determine how big data can drive business model innovation as well as to analyze business cases, and propose business intelligence & analytics solutions and decide which data to use given a business problem to be solved (Knowledge).

Adeptly evaluating and discussing the organizational and social implications of business intelligence & analytics solutions and to create insights using established business intelligence & analytics tools (Bridging Theory & Practice).

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
Tutorial classes & workshops

Toetsvorm
Written exam – Individual assessment
Analytics practicum tests – Individual assessment

Literatuur
This course is article based. Readings are specified in the course manual.

Aanbevolen voorkennis
Recommended knowledge Elementary course on (Management) Information Systems (for example: Laudon, K.C. & Laudon, J.P. (2016). Essentials of MIS (12th edition).
Basic knowledge on statistics and Microsoft Excel.

BK: 2.1 Business Information Technology
IBA: 2.1 Business Information Systems

Business Intelligence and Analytics

Vakcode	E_MM_BIA ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	prof. dr. J.F.M. Feldberg
Examinator	prof. dr. J.F.M. Feldberg
Lesmethode(n)	Hoorcollege, Werkcollege, Responsiecollege

Doel vak
Being able to define, describe and recall the basic concepts, principles and theories underlying business intelligence & analytics solutions (decision support systems). Also, to classify and compare business intelligence & analytics solutions as well as the constituent components of business intelligence & analytics solutions (Academic Skills).

Become proficient at exploring data-driven business models and to apply business intelligence & analytics concepts, principles and theories to business problems (Quantitative Skills).

Learn to explore, analyze and determine how big data can drive business model innovation as well as to analyze business cases, and propose business intelligence & analytics solutions and decide which data to use given a business problem to be solved (Knowledge).

Adeptly evaluating and discussing the organizational and social implications of business intelligence & analytics solutions and to create insights using established business intelligence & analytics tools (Bridging Theory & Practice).

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
Workshops

Toetsvorm
Assessment Written exam – Individual assessment
Interim Assignment(s) / Tests:
Analytics practicum tests – Individual assessment

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

Aanbevolen voorkennis
Recommended knowledge Elementary course on (Management) Information Systems (for example: Laudon, K.C. & Laudon, J.P. (2016). Essentials of MIS (12 th edition).
Basic knowledge on statistics and Microsoft Excel.

BK: 2.1 Business Information Technology
IBA: 2.1 Business Information Systems

Business Model Assessment

Vakcode	E_MB_BMA ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. L. Lu
Examinator	dr. L. Lu
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	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 introduction in corporate finance for students in the program. This course has three main learning objectives:
1. Gain knowledge of basic concepts and theories pertaining to firm behaviors in the area of corporate finance in order to assess the business (Knowledge)
2. Provide standard answers to hypothetical cases, e.g. through solving exercises from the textbook (Quantitative skills)
3. Apply obtained knowledge in corporate finance to real life cases, e.g. interpret financial information, formulate them into standard framework, and provide comments and remarks for corporate decision makers (Bridge theory and practice)
After participating in this course, you should:
• Understand corporate finance concepts, including their strengths and limitations in explaining the realities

• Understand unique features of these concepts and their interrelationship, and the relevant corporate finance theories for firm behaviors
• Have quantitative skills to apply these concepts, e.g. solve exercises in the textbook
• Be able to choose between various concepts and apply them in real life cases, e.g. provide advice and remarks for corporate decision makers

Inhoud vak
The course will start with an introduction of business assessment approaches and basic concepts. We will start with an introduction to corporations, and proceed with financial statement analysis, financial decision making, investment decision rules, capital budgeting, and raising equity capital, etc. The focus is on applying concepts and theories to real-life situations during lectures, and providing students with feedback on their exercises and cases in the tutorials. We will explain the basic concepts and theories in the lectures, and apply to relevant exercises and cases in the tutorials. Students need to solve two cases in groups of 4 or 5 members, and present their reports in the tutorials.

Onderwijsvorm
lectures and tutorials

Toetsvorm
Individual and group assessment

Literatuur
The case materials and exercises will be posted on Canvas

Business Model Innovation

Vakcode	E_MB_BMI ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. J. Du
Examinator	dr. J. Du
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	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 achieved 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/ theories 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 two main paths: Business model innovation based on internal resources and capabilities, as well as business model innovation leveraging external opportunities. A wide range of topics such as business idea generation, business opportunity
identification, start-up firms creation, as well as corporate venturing will be
discussed in each lecture, respectively.
During the lecture, the first part is related to the theories and process of business model innovation. The second part 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 literature will be explained and illustrated with real-life examples. Throughout the seminars, the theory is applied to student business plans and case analysis. Students will have the opportunity to learn from and interact with leading business practitioners, 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

Vereiste voorkennis
None

Business Professionals

Vakcode	E_MB_BPROF ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics

Coördinator	drs. A.C. Guldemond
Examinator	drs. A.C. Guldemond
Lesmethode(n)	Hoorcollege, Werkgroep, Instructiecollege
Niveau	300

Doel vak
In the course Business Professionals, the focus is on the human element in the business modeling paradigm. 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
• Be able to verbally and in written report on assignments

Inhoud vak
During the course students will explore cases and theories about the contribution of professionals in management and organization. Guiding questions are: 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 content of the course entails an even-handed appreciation for theory and practice.

Onderwijsvorm
Lectures and tutorials. In the first part of the course, lectures start with an introduction to (management) professionals; their task, responsibilities, and activities. 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. Students are expected to actively contribute to the group's experience and learning.

Toetsvorm
Written exam, assignments, presentation

Literatuur
- Selection of articles, cases and support materials

Business Project

Vakcode	E_MB_BPROJ ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. B.V. Tjemkes

Examinator	dr. B.V. Tjemkes
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	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 (conceptual, 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 real-life business which
is confronted with specific challenges that demand a resolution (company visit). 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.To conclude the course a presentation is given to the management team of the company.

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
Individual and team assignment

Literatuur
Selection of articles.

Business Simulation

Vakcode	X_401006 ()
Periode	Periode 3
Credits	6.0

Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	prof. dr. G.M. Koole
Examinator	prof. dr. G.M. Koole
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	200

Doel vak
A practical introduction to the different aspects of simulation.

Inhoud vak
During this course we study the different aspects of Monte Carlo simulation and discrete-event simulation in a coherent way. Subjects treated are: Modeling of business problems, statistical outcome analysis, simulation optimisation, software tooling, programming of simulations in Java.

Onderwijsvorm
Lectures and Practical sessions

Toetsvorm
Individual assignments

Literatuur
The literature consists of the course slides

Doelgroep
2BA

Calculus 1

Vakcode	X_400635 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. ir. R.F. Swarttouw
Examinator	dr. ir. R.F. Swarttouw
Docent(en)	dr. ir. R.F. Swarttouw
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	100

Doel vak
At the end of this course the student is able to
a) calculate limits, using several methods like l'Hopitals rule or the squeeze theorem
b) calculate derivatives and to find local extreme values
c) calculate integrals, using several methods like the substitution method, integration by parts, partial fraction expansion
d) verify if a function is continuous, differentiable, Riemann-integrable
e) calulate and apply a Taylor polynomial
f) formulate and apply several important theorems for continuous and/or

differentiable functions, like the Intermediate Value Theorem, the Mean Value Theorem and the Fundamental Theorem of Calculus

Inhoud vak
Real functions of one variable. Topics that will be treated are:
1) Preliminaries, Real functions, Trigonometric functions
2) Limits, Continuity, Intermediate Value Theorem
3) Transcendental Functions, Inverse Functions
4) Differentiation, Chain Rule, Mean Value Theorem
5) Applications of Differentiation, Extreme Values, l'Hôpital's Rule, Taylor Polynomial
6) Integration, Fundamental Theorem of Calculus, Improper Integrals

Onderwijsvorm
Lectures (3x per week) and tutorials (2x per week)

Toetsvorm
Midterm exam and Final exam. More details can be found in the manual on Canvas.

Literatuur
Adams en Essex, Calculus: A Complete Course, 8th edition, Pearson 2013.

Doelgroep
1 BA

Overige informatie
Participation in the working classes is compulsory! Detailed rules will be announced in the manual on Canvas.

Calculus 2

Vakcode	X_400636 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. ir. R.F. Swarttouw
Examinator	dr. ir. R.F. Swarttouw
Docent(en)	dr. ir. R.F. Swarttouw
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	100

Doel vak
At the end of this course the student is able to
a) determine if a series is convergent or divergent, using several tests (like the comparison test, ratio test, alternating series test)
b) work with power series (find radius of convergence, differentiate or integrate termwise)
c) find the Taylor series of several functions (like exp(x), sin(x), cos(x), ln(1+x), etc)
d) calculate partial derivatives, also using the chain rule
e) find extreme values of functions of two variables, with and without contraints
f) calculate with complex numbers

g) solve several first- and second-order differential equations (separable equations, first-order linear equations, second-order linear equations with constant coefficients).

Inhoud vak
Series, Real functions of Several Variables, Differential equations.
Topics that will be treated are:
1) Sequences, Series, Power Series, Taylor Series
2) Partial Derivatives, Chain Rule
3) Extreme Values
4) Double Integrals, Polar Coordinates
5) Complex Numbers
6) First and Second Order Differential Equations

Onderwijsvorm
Lectures (3x per week) and tutorials (2x per week)

Toetsvorm
Midterm exam and Final exam. More details can be found in the manual on Canvas.

Literatuur
Adams en Essex, Calculus: A Complete Course, 8th edition, Pearson 2013.

Aanbevolen voorkennis
Calculus 1

Doelgroep
1 BA

Overige informatie
Participation in the working classes is compulsory! Detailed rules will be announced in the manual on Canvas.

Challenges of Food and Nutrition Security

Vakcode	E_MG_CFNS ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. C.F.A. van Wesenbeeck
Examinator	dr. C.F.A. van Wesenbeeck
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	100

Doel vak
After successfully completing this course, students will:
• have a broad understanding of the concept of Food and Nutrition Security (FNS);
• be able to identify, calculate and interpret basic indicators for FNS and judge their relevance;
• be familiar with and understand the challenges to achieve FNS;
• be familiar with and understand the challenges posed by FNS failure for societies and individuals;

• be familiar with and understand the rationale for possible interventions to improve FNS.

Inhoud vak
Food and nutrition security is a critical input for the functioning and wellbeing in any society. At the same time, food and nutrition security remains far from guaranteed with more than 700 million people being undernourished and another billion people suffering from a lack of vitamins and minerals. In this course you will first develop a broad and deep understanding of the concept of FNS, both historically and contemporaneously. Next, the course will analyze challenges to ensure food and nutrition security for all now and in the future as well as challenges posed for societies and individuals by food and nutrition insecurity.

Onderwijsvorm
Lectures and workgroups

Toetsvorm
Exam (60%), assignments (30%), presentation (10%)

Literatuur
To be announced

Vereiste voorkennis
There is no formal entrance requirement for the minor Global Food Security Studies, and hence also not for this course. We specifically aim for a diverse group as we strongly believe that interdisciplinary research is best taught through active interaction between students from different disciplinary backgrounds. However, we expect that this course is especially of interest to students of economics, social sciences and health sciences. The minor is a university minor which implies that VU students do not need to ask for permission from the Examination Board to acquire the credits for courses for their own BSc degree.

Doelgroep
The minor Global Food Security Studies and hence also this course is open for students from all majors who want to acquire familiarity with the core principles of global food security and interdisciplinary methods. We are particularly interested in students who wish to contribute to food security through rigorous interdisciplinary knowledge production. The international staff that teaches in this minor program conducts research in a variety of regions around the globe. This holds great appeal to students who are keen to understand the diversity and similarity in problems and solutions related to food (in)security.

Intekenprocedure
To register you should enroll through VUnet. Registration is open from mid-July. Early registration is recommended. Students without access to VUnet should enroll as secondary course students ('bijvakstudent'). More information can be found on this pages:

Dutch information about the application procedure >
English information about the application procedure >

Overige informatie
Part of minor Global Food Security

Climate Change Law

Vakcode	R_TL-TP ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	C. Kaupa
Examinator	C. Kaupa
Docent(en)	C. Kaupa
Lesmethode(n)	Hoorcollege
Niveau	300

Doel vak
The course analyzes climate change as a transnational legal phenomenon. Students will learn to work across different legal fields (ranging from international and human rights law to private and economic law) and different jurisdictions (including international, European, national and local regulation), and to handle legal questions in the context of complex economic, political, social and ethical debates. 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 understanding transnational global developments.

Inhoud vak
Climate change is one of the most pressing issues the world faces in the 21st century. It is also a particularly complex and interesting problem from a legal perspective: this is because climate change affects multiple jurisdictions (from the international to the local level), numerous areas of law (ranging from international to private law) and multiple actors (ranging from governments and international organizations to multinational businesses, NGOs and private citizens). Moreover, complex scientific, economic, political, social and ethical questions feed into the legal processes.

Analyzing the interaction of different legal fields:
Greenhouse gases originate from a broad range of activities, including energy production, industry and transport to agriculture. These are regulated in, or otherwise affected by, numerous fields of law, such as international law, European and national economic law, private law, environmental law, international trade and investment law and human rights law. Tackling climate change therefore requires understanding how these various legal fields interact.

Analyzing how different jurisdictions interact:
Climate change is a transnational phenomenon, having local causes, but creating global effects: consequently, the problem must be addressed at the same time at a global scale, by regional organizations (such as the EU), at the national and at the regional level (e.g. cities). The course will look at how these different jurisdictions interact.

Understanding the role of different legal actors:
Climate change is not only a concern for national governments and international organizations. The European Union, as a regional organization, has long been an important actor in this field; moreover, non-state actors play an important role as well: multinational

businesses, NGOs and private citizens aim to influence the regulatory process, most notably by bringing lawsuits. The course will analyze the activities of these different actors.

Understanding the context of climate change law:
Climate change has complex scientific, economic, political, social and ethical dimensions: for example, given that the emission of greenhouse gases is related to many different business sectors, a transition towards a low-carbon society will likely transform the existing economy in significant ways. This will inevitably create „losers“ along the way (e.g. coal and oil companies), who may aim to slow down the transition, thereby posing difficult economic and political questions. Or, to give another example, as greenhouse gas emissions are related to consumption, they are mainly attributable to the wealthy parts of the global population; however, climate change disproportionately affects poor populations in developing countries, and therefore raises complex ethical issues. In this course, we will study how scientific, economic, political, social and ethical questions feed into the legal process.

The course will cover:
Part 1: the science, economics and politics of climate change;
Part 2: Climate change as a global issue; the international climate change regime (e.g. Paris Agreement), international law, human rights law and international trade and investment law;
Part 3: European and national legislation (e.g. Emissions Trading System)
Part 4: Lawyering for change (e.g. lawsuits against governments and businesses in the US and in Europe)

Toetsvorm
Small written and oral assignments throughout the course and a final written assignment.

Literatuur
The literature will be announced on Canvas.

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

Cognitive Neuroscience

Vakcode	AB_1056 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Aard- en Levenswetenschappen
Coördinator	dr. S. van der Sluis
Examinator	dr. S. van der Sluis
Docent(en)	prof. dr. S. Spijker, dr. C.P.J. de Kock, dr. H.K.E. Vervaeke, dr. S. van der Sluis, M. Loos
Lesmethode(n)	Practicum, Computerpracticum, Werkgroep, Hoorcollege
Niveau	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 its different cell types, function.

Inhoud vak
In the first course 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, delivered by renowned neuroscientists, to discuss
recent advances in the field of learning and memory, brain plasticity, and brain disease (e.g., Angelman syndrome, OCD).
Finally, you will learn about and experience various technical approaches to measure the brain (e.g., histology) 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

Vereiste voorkennis
No special requirements.

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: Christiaan de Kock and Sophie van der Sluis.
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

Vakcode	P_BCOGNEUS ()

Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	dr. D.J. Heslenfeld
Examinator	dr. D.J. Heslenfeld
Docent(en)	dr. D.J. Heslenfeld
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	300

Doel vak
To introduce students to the multidisciplinary area of cognitive, social, clinical and emotional neuroscience.

Inhoud vak
The course will treat modern techniques and recent data that relate mental processes to brain functions. Techniques that will be covered are EEG, MEG, MRI, lesions. Mental functions that will be studied include perception, memory, emotion, consciousness, and social cognition. The aim of the course is to provide a sound basis for the master program.

Onderwijsvorm
Lectures, computer practicals and literature study.

Toetsvorm
Written examination, multiple choice questions.Practicals have to be completed

Literatuur
Gazzaniga, M.S., Ivry, R.B., & Mangun, G.R. (2016). Cognitive Neuroscience: The Biology of the Mind (4th Edition). New York: Norton. ISBN: 9780393912036

Vereiste voorkennis
Some background in psychology and biology is recommended.

Aanbevolen voorkennis
Biologische en Cognitieve Psychologie

Overige informatie
Language: Tuition in English.

As of 2018-19 this course is no longer part of the University Minor. Students who still need to complete this course for the UM, can contact the course coordinator.

Combinatorial Optimization

Vakcode	X_401067 ()
Periode	Periode 4+5
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen

Coördinator	dr. ir. R.A. Sitters
Examinator	dr. ir. R.A. Sitters
Docent(en)	dr. ir. R.A. Sitters
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	300

Doel vak
In dit vak wordt dieper ingegaan op de theorie van combinatorische optimaliseringsproblemen. Daarnaast zal een deel van de tijd worden besteed aan het modelleren en oplossen van complexe problemen met behulp van beschikbare software.
De nadruk ligt op de analyse van algoritmes voor combinatorische problemen. In het bijzonder wordt gekeken naar running time en prestatiegaranties van algoritmes.

Doelen :
- Kennis opdoen van de theorie van combinatorische optimaliseringsproblemen.
- De theorie kunnen toepassen. Bijvoorbeeld, door de complexiteit van een probleem vast te stellen, door zelf een algoritme voor een probleem op stellen, of door de running time of prestatiegarantie te bepalen bij een gegeven algoritme.
- (Praktijk-)problemen kunnen modelleren (bijvoorbeeld als integer linear programming probleem) en kunnen oplossen met de beschikbare software.

Inhoud vak
Onderwerpen die aan bod komen:
Inleiding grafentheorie, geheeltallig lineair programmeren, netwerkoptimalisatie algoritmen (matching, maximale stroom, minimale kosten stroom), complexiteit van optimaliseringsproblemen (NP-compleetheid, benaderbaarheid), benaderingsalgoritmen, local search, online optimalisatie, randomized algoritmen.

Onderwijsvorm
Hoorcollege + Werkcollege

Toetsvorm
Schriftelijk tentamen (50%) + opdrachten (50%).
Deelname aan de opdrachten is een noodzakelijk voorwaarde voor het behalen van het vak.

Literatuur
Nog vast te stellen voor 2018.

Vereiste voorkennis
Operations Research (X_400618)

Aanbevolen voorkennis
Mathematical Optimization, Data Structures and Algorithms

Doelgroep
3BA

Comparative Political Research

Vakcode	S_CPR ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	dr. P.J.M. Pennings
Examinator	dr. P.J.M. Pennings
Docent(en)	dr. P.J.M. Pennings
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	200

Doel vak
This course presents an overview of 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
In this course students will compare two contrasting case studies and make a design for a comparative case study themselves. These tasks will help students to gain the basic skills necessary for performing comparative
research and to set up a research design.

Onderwijsvorm
• The course will be taught in the form of lectures and tutorials.
• 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.

Toetsvorm
Written assignments.

Literatuur
Main Textbook (To be purchased):
Gerring, J. (2017). Case Study Research. Principles and Practices. Cambridge: Cambridge University Press. 2nd Edition.

In addition students will read a number of articles.

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).

Creative Writing

Vakcode	L_NNBAALG001 ()
Periode	Periode 2
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. J.H.C. Bel
Examinator	dr. J.H.C. Bel
Docent(en)	dr. J.H.C. Bel
Lesmethode(n)	Werkcollege
Niveau	200

Doel vak
Het streven is studenten inzicht te geven in literaire technieken zodat ze zelf fictie of een essay leren schrijven van een behoorlijk technisch niveau. Het
gaat hierbij om fictie of non-fictie. Aan het eind hebben de studenten een
afgeronde (fictionele) tekst geschreven, een kort verhaal, een afgerond romanfragment of een essay.
Studenten krijgen inzicht in hoe fictie en non-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 en niet-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 stuk fictie of non-fictie dat 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.

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 80 % 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 (80 %) 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 zijn gevolgd.

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

Overige informatie
Aanwezigheid (80%) en actieve deelname zijn verplicht.

Critical Perspectives on Science

Vakcode	W_CPOS ()
Periode	Periode 1+2+3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. J.M. Halsema
Examinator	dr. J.M. Halsema
Docent(en)	dr. J.M. Halsema
Lesmethode(n)	Werkcollege, Hoorcollege

Niveau	200

Doel vak
- Knowledge of the feminist critique of science, and of critiques of science from the perspectives of race and intersectionality;
- Insight in the way in which these perspectives structure the student's own discipline;
- Developing the skills to critically question texts from the perspective of gender, race, and sexuality.
- Developing writing skills (by getting feedback) and presentation skills.

Inhoud vak
This course introduces diverse critical perspectives upon science that are developed from feminist, race, and intersectionality theory. In the first four weeks, on the basis of key articles in these fields (such as Harding, Haraway, belle hooks, Crenshaw), the different perspectives will be introduced, as well as the most important debates in these fields that form the backbone of this minor: the sex/gender debate, the problem of the relationship between gender and race theory, the intersectional framework. The course does not only aim at introducing the perspectives theoretically, but also at self-reflection by the students. In two weekly seminars the students will work at relating these perspectives to their own discipline. The seminars aim at developing a critical perspective upon the central texts in the student's discipline The course will start in the first period and will end in period 3. The seminars will take place every two weeks, during the entire semester. The final course assessment will take place in period 3: students will give a presentation at the closing symposium of the minor and write a paper in which they demonstrate to be able to analyze from the angle of gender and diversity a subject/text/film/book from their own discipline.

Onderwijsvorm
Lectures and seminars (active learning groups).

Toetsvorm
- Three reflections of 500 words (divided over the semester) (30%; 10% for each reflection)
- Presentation at closing symposium (period 3) (10%).
- Paper (end of the minor, period 3), of 2000 words in which the perspectives developed in the minor are related to the discipline of the student (60%).

Literatuur
To be announced on Canvas

Doelgroep
The course is at Bachelor 3 level and open for students from different disciplines.

Current Issues in Migration Law

Vakcode	R_HumRCI (200994)
Periode	Periode 3
Credits	3.0

Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	T.K. Last
Examinator	T.K. Last
Docent(en)	prof. mr. T.P. Spijkerboer
Lesmethode(n)	Leergroep, Hoorcollege, Werkcollege
Niveau	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 introduction to the current issue topic areas on Canvas. Another lecture on how to formulate a research question and write a research paper. 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 Canvas 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)

Current Issues in Transnational Law

Vakcode	R_CIsTrL ()
Periode	Periode 3
Credits	3.0
Voertaal	Engels

Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	prof. dr. G.T. Davies
Examinator	prof. dr. G.T. Davies
Docent(en)	prof. dr. G.T. Davies
Lesmethode(n)	Hoorcollege
Niveau	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 2017, the course focused on the following three topics:

- International trade and investment agreements - TTIP
- Problems of the International Criminal Court
- Legal issues of geoengineering

The subjects for 2018 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 Canvas 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 and Privacy

Vakcode	R_DAP ()
Periode	Periode 2
Credits	6.0

Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	dr. mr. M. van der Linden
Examinator	dr. mr. M. van der Linden
Docent(en)	prof. mr. A.R. Lodder
Lesmethode(n)	Hoorcollege, Leergroep
Niveau	300

Doel vak
Data Analytics and Privacy focuses on the role of fundamental rights and legal principles in the regulation of business analytics and data science, with a general focus on the right to privacy. The student will learn and understand the ethical and legal aspects of business analytics and data science. The student will be able to analyze the role of fundamental rights and legal principles in the regulation of these issues. The student will be able to deal with the similarities and differences between legal admissibility and ethical acceptability when working with large datasets and the application of the outcomes of the analysis.

Inhoud vak
In the field of business analytics and data science the opportunities seem endless. Perfect enforcement of norms, excellent personally targetted advises and advertments. Outcomes of data analytics can even preceed what's on a man's mind: the cab arrives at the moment you did not even know yet you needed it, the packages are already posted before you ordered them, or the criminal behavior is predicted before it takes place. This course obviously is not about the possibilities, but about the limits we as a society want to put on those possibillities. The legal and ethical standards for this area have not yet been crystallized, but in general fundamental rights and ethical principles are well known. This course also explores the boundaries between legal admissibility and ethical responsibility.

Onderwijsvorm
Lectures, tutorials, peer review

Toetsvorm
Paper, presentation

Literatuur
Made available via Electronic Learning environment

Doelgroep
Apart from regular students, the course is also available for:
Students from other universities/faculties
Contractor (students who pay for one course).

Data Structures and Algorithms

Vakcode	X_400614 (400614)
Periode	Periode 1
Credits	6.0
Voertaal	Engels

Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. F. van Raamsdonk
Examinator	dr. F. van Raamsdonk
Docent(en)	dr. F. van Raamsdonk
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	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
A mid-term exam (bot obligatory) and a final exam.
The written exam contributes for at least 80% to the final grade.
Moreover, there are probably obligatory programming assignments contributing for at most 20% to the final grade.

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

Databases

Vakcode	X_401008 (401008)
Periode	Periode 5
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. H.F. Mühleisen
Examinator	dr. H.F. Mühleisen
Docent(en)	drs. J. Endrullis, dr. H.F. Mühleisen
Lesmethode(n)	Hoorcollege, Practicum, Computerpracticum
Niveau	200

Doel vak
The course objective is to obtain a good knowledge and understanding of relational database systems. This includes the ability to develop conceptual database models, as well as key concepts and skills in relational database theory and practice.

Inhoud vak
The course is concerned with base principles and important aspects of relational databases. Among others, we treat: ER and UML class diagrams (for the design and evaluation of database schemata), the relational model, relational algebra, functional dependencies, integrity constraints, transactions and
concurrency control. In the practicum, we put emphasis on the ability to understand and formulate complex SQL queries.

Onderwijsvorm
Lectures, exercise/practicum classes, individual homework and practicum tasks.

Toetsvorm
Exam

Literatuur
Database Systems, The Complete Book, by: Hector Garcia-Molina & Jeffrey D. Ullman & Jennifer Widom. 2nd edition.

Aanbevolen voorkennis
Basic programming skills help.

Doelgroep
2CS, 2IMM, 2LI, 2BA

Decolonizing Europe

Vakcode	L_GCBAALG008 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	M.P. Groten
Examinator	M.P. Groten
Docent(en)	prof. dr. S. Legene, M.P. Groten
Lesmethode(n)	Werkcollege, Hoorcollege
Niveau	300

Doel vak
Decolonizing Europe has both historical and methodological learning objectives. After the course, participants...
1. Have a good understanding of the main approaches to the postwar history of the European nation state and are able to situate leading historians in the historiographical debate on decolonization and postcolonialism
2. Are able to critically review (both in writing and speaking) a monograph and to develop, both orally and in writing an argued opinion about the issue addressed by the author(s)
3. Have been challenged to reflect on the own ‘subject position’ and explore the theme from various perspectives while acknowledging different experiences with respect to European postcolonial society.

Inhoud vak
The course focuses on the impact of European imperialism on the dynamics of nation state formation within ‘Postwar Europe’.* While all around the globe countries became independent, what did that mean for Europe itself? Students will come across at least three developments that played a major role in the repositioning of Europe in the international arena after colonialism:
• The reordering of European national states in East and West and the impact of the Cold War
• The changes within Europe and between Europe and the ‘Third World’ as a result of decolonization.
• The gradual European integration process and, simultaneously, the emergence of major ambiguities within separate nation states concerning the concept of multicultural society.
The course investigates these developments with particular attention to a better understanding of colonialism as a history with a deep influence on notions of belonging, inclusion and exclusion with respect to citizenship at national and European level. Against the backdrop of a political history, this course will discuss how historians, philosophers, activists, politicians, have approached this history within a national, European or global frame of reference.
* Tony Judt, Postwar, A history of Europe since 1945. New York, 2005.

Onderwijsvorm
Two introductory lectures (week 1 and 2) supported by common reading assignments, week 3 individual assignment to write a summary and discuss a monograph selected from the course list or at your own suggestion, followed by a guest lecture in week 4; as from week 5-7 intensive sessions focusing at the topics addressed in the selected monographs. In week 8 the course ends with a forum discussion organized by the

participants.

Toetsvorm
Mandatory: attendance of the seven plenary sessions and final forum discussion.
Grading elements:
1. pro-active role in class, including class notes or other prep. assignments 30%;
2. Monograph: summary and discussion paper (2.000 words) 40%;
3. ppt. presentation and discussion in class about topics addressed in the reviews 20%.
4. Contribution to final forum discussion 10%;
Instructions and criteria for the assessment of the summary and discussion paper on a selected monograph will be included in the full course description.
In order be able to finish the course, each grading element per se has to be satisfactory. If failed, the paper can be re-submitted.

Literatuur
An extensive list will be published in the full course description. The following titles will be used as common reference works:
- Elizabeth Buettner, Europe after Empire. Decolonization, Society, and Culture (Cambridge, Cambridge UP, 2015)
- Jan C. Jansen & Jürgen Osterhammel, Decolonization: A Short History (Translated by Jeremiah Riemer Princeton, Princeton UP, 2017) (or German edition)

Vereiste voorkennis
Students will need a sufficient background in contemporary history, either at a general level, or specifically concerning the history of their own country, region, continent of origin.

Aanbevolen voorkennis
It is strongly advised to read Jansen/Osterhammel before class starts.

Doelgroep
As from the start, the course will be at 300 level and require a dedication to reading a lot. The course aims at History students in their BA3-minor semester and at those students from other disciplines who follow the full History minor-program. Other international exchange students and students from other disciplines, University colleges and VU-faculties with a sufficient level of historical knowledge, can participate after permission by the course coordinator.

Intekenprocedure
The maximum number of participants for this module is 25 students. Make sure that you register in time.

Overige informatie
Full course title:
Decolonizing Europe - Perspectives on Post-WW2 State Formation and the Cold War

Democracy: A History

Vakcode	L_GABAGES212 ()
Periode	Periode 2

Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. D.B.R. Kroeze
Examinator	dr. D.B.R. Kroeze
Docent(en)	prof. dr. C.A. Davids, dr. F.D. Huijzendveld, dr. D.B.R. Kroeze
Lesmethode(n)	Hoorcollege
Niveau	200

Doel vak
Improve knowledge of the historical development of democracy and of democratization in history. Improve understanding of differences between classic, early modern and modern understandings of democracy. Being able to critically
reflect on normative thinking in academic and political debates. Being able to formulate an independent opinion on historical and contemporary issues related to democracy.

Inhoud vak
Since the end of the eighteenth century ‘democracy’ slowly but steadily has become more popular. Democracy as a mode of government and the word ‘democracy’ itself has by leaps and bounds found acceptance in many parts of the world. Democracy has become the standard or the rule, while other modes of government are considered as deviations or exceptions. How and why has this evolution occurred in Europe and in other parts of the world? What sorts of changes or continuities can during this prolonged evolution be discerned in the concept of ‘democracy’, and how can we critically assess the dominant position of democracy? Answers to these questions will be presented by giving an overview of the historical development of democracy since the time of the Athenian democracy, the 'Atlantic Revolutions' of around 1800, and the rise, fall and rise in the era around the World Wars. The history of democracy will be related to theories about democracy
and democratization. The main emphasis will be on the Western and European history of democracy but guest lecturers will also discuss the non-Western development of democracy.

Onderwijsvorm
Lectures and discussion.

Toetsvorm
Midterm and final exam.

Literatuur
Roger Osborne, Of the people, by the people. A new history of democracy (2011); D. Held, Models of Democracy (2006; 3 edition); articles and book
chapters (to be announced).

Vereiste voorkennis
First year completed.

Doelgroep
Students BA2 Geschiedenis/ History; Dutch students and exchange students with a

Humanities or Political Sciences profile.

Overige informatie
This course is obligatory in the second year.

Designing Solutions for Global Sustainability

Vakcode	AB_1231 ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Aard- en Levenswetenschappen
Coördinator	dr. P.J.H. van Beukering
Examinator	dr. P.J.H. van Beukering
Docent(en)	dr. P.J.H. van Beukering, dr. ir. M.G. van der Meij
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	300

Development and Globalization

Vakcode	S_DG ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	prof. dr. D. Dalakoglou
Docent(en)	prof. dr. D. Dalakoglou
Lesmethode(n)	Hoorcollege
Niveau	300

Doel vak
The aim of this course is to introduce students 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.

Learning Objectives

Knowledge and Understanding. The student has acquired knowledge and understanding of:
(1) the development and globalisation related phenomena and their global effect on health, gender, urbanisation, migration, etc.

Application. The student has acquired the competences to:
(2) understand and analyse the historical, sociocultural and political dimensions of international development and globalisation and their role in shaping contemporary world.

Attitude. The student demonstrates:
(3) a critical attitude towards ideas on globalisation and development.

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
Final exam.

Literatuur
To be announced on CANVAS

Doelgroep
2nd year bachelor students in Cultural Anthropology and Development Sociology
Students in the minor Development and Global Challenges
Students in the minor Anthropology
The course is also open as an elective course

Development of Macroeconomic Thought

Vakcode	E_ME_DMT ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	prof. dr. C.A. Davids
Examinator	prof. dr. C.A. Davids
Docent(en)	prof. dr. C.A. Davids, J. Chen MPhil
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	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 (30 %) and written examination (70%), 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.

Doelgroep
Remarks: this course is an integral part of the University Minor Economics; participants gain strongly from attending the entire minor program.

Digital Humanities and Social Analytics in Practice

Vakcode	L_AABAALG048 ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. L.M. Aroyo
Examinator	dr. L.M. Aroyo
Docent(en)	dr. L.M. Aroyo
Lesmethode(n)	Werkcollege
Niveau	300

Doel vak
The goal of the course is to get acquainted with digital humanities research, by collaborating in current project through an intensive internship of one month. Students learn to put digital theory into practice, applying the knowledge gained from previous minor courses to a real-world project.

Inhoud vak
Throughout the Digital Humanities minor, you have learned about the field of digital humanities, you have engaged in critical reflection on the tools and methods used, and explored the way digital techniques influence current research. The goal of the course is to put theory into practice, applying the knowledge gained from the minor to a real-world project. The course is set up as an internship at a current digital humanities project. Students can choose a digital humanities project that is close
to their field of study and interest, The projects are housed by cultural heritage institutions, or research labs. You will be guided by one tutor from UvA or VU and one cultural heritage professional. Through these intensive "collaboratories" students learn practical application of digital humanities knowledge, tools and methods.

Onderwijsvorm
Project-based learning. Group work, weekly tutor meeting per group, final group presentation.

Toetsvorm
Final grade is based on assessment of (1) final report, (2) final presentation, (3) self-assessment, (4) final product.

Literatuur
Depending on the chosen project, t.b.a.

Vereiste voorkennis
The Digital Humanities minor is an interdisciplinary minor, welcoming both computer science students and humanities students of all disciplines: linguistics, media, communication, history, literature and arts. In order to participate in the course "Digital Humanities in Practice" you have at least completed two courses of the minor, as this course is set up as a practical application of knowledge, tools and methods discussed in the previous courses.

Doelgroep
Minor Digital Humanities, BA Media and Information (UVA), BA specialisation e-humanities

Intekenprocedure
For UvA students: For registering for the VU-courses, you need to enrol as a guest student at VU for the BA History.
Read how to in Dutch:
http://www.vu.nl/nl/opleidingen/toelating-en-inschrijving/bijvakken
or in English: http://www.vu.nl/en/programmes/short/secondary/index.aspx

Overige informatie
This module is taught at the VU. Module registration at the VU is required.

Digitization: from Life to Data (UvA)

Vakcode	L_AABAUVA008 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. H.M.E.P. Kuijpers
Lesmethode(n)	Werkcollege
Niveau	200

Doel vak
At the end of this course the student is able to:
• understand the complexity and challenges of (global) data developments.
• understand the relevance of data-oriented research for humanities and social sciences.
• apply their knowledge by developing their own research projects.
• apply various computational techniques such as structuring and parsing digital data.
• critically reflect on the implications of the selection, structuring and manipulation of data for the outcome of their work.

Inhoud vak
The humanities and social sciences are confronted with more and more digital material. Digital methods allow researchers to study relations between objects from a different perspective and on a larger scale. How can humanities researchers and social scientists use digital data to support their research? What are the digital tools at their disposal and how can these tools provide new perspectives and research questions? This tutorial looks at the Humanities from a data-oriented perspective; it introduces students to the different stages of data-driven research in the Humanities: how to obtain data (e.g. scraping), extract information (parsing), and find patterns (mining). Students will apply their knowledge of these techniques (and their associated tools) by developing their own research project.

Onderwijsvorm
Tutorial

Toetsvorm
Assignments and final paper. For dates and deadlines see the timetable and/or the course manual.

Literatuur
All material will be made available via Canvas.

Doelgroep
This course is part of the UVA/VU Minor Digital Humanities and Social Analytics
https://minor.vu.nl/nl/minoren/digital-humanities-and-social-analytics/i

Intekenprocedure
Module registration at the UvA is required. Note that registration will take place from 13 juni t/m 27 juni.
For more information see:
http://coursecatalogue.uva.nl/xmlpages/page/2017-2018-en/search-minor/pr
or: Onderwijsadministratie BG2 +31 20 5254952

Overige informatie
This module is taught at the UvA, Capacity group Media Studies, dr. K. Beelen (coördinator)

Dynamics and Computation

Vakcode	X_400647 ()
Periode	Periode 4+5
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. R. Planque
Examinator	dr. R. Planque
Docent(en)	dr. R. Planque
Lesmethode(n)	Hoorcollege, Deeltoets extra zaalcapaciteit, Werkcollege, Practicum
Niveau	200

Doel vak
In this course you will be given an overview of the theory of discrete and continuous dynamical systems (first period), as well as a foundation in the most commonly applied numerical algorithms used to solve algebraic and dynamic problems (second period) found in concrete applications. At the end of the course, the student is able to
- analyse one and two-dimensional difference and differential equations systems
- solve systems of non-linear ODEs numerically
- linearise a non-linear system, compute corresponding eigenvalues (by hand and numerically), and draw conclusions on the stability of fixed points
- use several numerical algorithms in concrete applications
- make programs in Matlab

Inhoud vak
Dynamical Systems part:
1. Discrete-time dynamical systems
2. Ordinary Differential Equations in 1 and 2 dimensions: graphical methods, linearisation, phase plane analysis
3. General theory of linear ODEs, solving initial value problems.
4. If there is enough time: dependence of solutions on parameters.

Numerical part
1. Finding roots of nonlinear equations
2. Least Squares, curve fitting
3. Eigenvalue Problems, Pagerank
4. Fast Fourier Transforms, analysing signals
5. Numerical methods for ODEs

Onderwijsvorm
lectures, tutorials, computer labs

Toetsvorm
Written exam (part 1) and computer programming exercises (part 2). Both form 50% of the grade, and both need to passed to pass the entire

course.

Literatuur
S. H. Strogatz. Nonlinear Dynamics and Chaos. ISBN: 978-0738204536

Aanbevolen voorkennis
Linear Algebra, Calculus 1 and 2

Doelgroep
2 BA

Economics and Politics for Food and Nutrition Security

Vakcode	E_MG_EPFNS ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	drs. G.J.M. van den Boom
Examinator	drs. G.J.M. van den Boom
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	300

Educatieve Minor Didactiek 1

Vakcode	O_EMDID1 ()
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	ir. E.J.F. Scheringa
Examinator	ir. E.J.F. Scheringa
Docent(en)	ir. E.J.F. Scheringa, drs. J.K.W. Riksen, drs. H.R. Goudsmit, drs. Y.G. Meindersma, drs. I. Pauw, drs. C.D.P. van Oeveren, drs. S. Donszelmann, drs. B. Klein, drs. W. Jongejan, drs. L.J. van Well-van Grootheest, dr. H.B. Westbroek, C.L. Geraedts, dr. A.A. Kaal, dr. A. Handelzalts, drs. A.J.C. Monquil, drs. L.A. van der Bruggen, W. Maas, drs. H. Stouthart, F.L. de Vries, drs. J. Quartel MA
Lesmethode(n)	Werkgroep, Hoorcollege
Niveau	300

Doel vak
De cursus Didactiek 1 is onderdeel van de eerste fase (fase I) van de Universitaire Lerarenopleiding (ULO) van de VU, en loopt parallel aan de cursus Praktijk 1. De cursus is breed van opzet en omvat verschillende onderdelen die in samenhang worden aangeboden: algemene didactiek (AD), vakdidactiek (VD) en peergroup (PG).

Aan het eind van de cursus heeft de student de nodige basale algemeen

didactische en vakdidactische bagage aan te reiken die nodig is voor het handelen als docent. Hierbij wordt nadrukkelijk aangesloten bij de ontwikkelingsfase waarin de docent-in-opleiding (dio) zich bevindt (zie inhoud).

Inhoud vak
De cursus is geordend rondom zogeheten kernpraktijken die fundamenteel zijn voor het beroep van docent. Bij Didactiek 1 staan de volgende kernpraktijken centraal: (1) contact maken, (2) de les starten (3) krediet opbouwen en uitgeven, (4) de les voorbereiden, (5) sturen en corrigeren en
(6) volledige instructie geven en de les afsluiten.
De reikwijdte van het didactisch denken en handelen is in deze eerste fase meestal nog beperkt tot één les.
De genoemde kernpraktijken komen expliciet aan de orde bij AD. Bij VD wordt aangesloten bij deze kernpraktijken en wordt de vertaalslag gemaakt naar het eigen (school)vak. Daarnaast worden bij VD belangrijke vakdidactische concepten en werkwijzen geïntroduceerd

Bij PG staat de eigen onderwijspraktijk van de docent-in-opleiding (dio) centraal. Concrete vragen en situaties uit de praktijk vormen aanleiding tot analyse en reflectie. Waar bij AD en VD de nadruk ligt op de rollen van de uitvoerende en ontwerpende docent en pedagoog, wordt bij PG nadrukkelijk vorm gegeven aan de rol van onderzoekende professional.

De ervaring leert dat de kernpraktijken die bij Didactiek 1 centraal staan bij de meeste dio's uitgebreid aan de orde komen tijdens het eerste deel van de praktijkstage (Praktijk 1). Alle inhoudscomponenten uit deze cursus worden tijdens de bijeenkomsten en in verwerking verbonden met de werkplekpraktijk van de student. De dio en de werkplekbegeleider krijgen ook suggesties voor (observatie)opdrachten die kunnen bijdragen aan de ontwikkeling van de competenties die bij deze kernpraktijken horen.

Onderwijsvorm
Alle onderwijs vindt plaats op de instituutsdag (maandag). Studenten zijn de hele dag aanwezig. In de ochtend is er een hoor/werkcollege AD, waarbij dio's van verschillende vakken samen zitten. De colleges AD worden steeds verzorgd door een tweetal docenten. Na het college AD volgt een PG bijeenkomst, waarbij dio's van verschillende vakken in kleine groepen en onder begeleiding de eigen onderwijspraktijk onder de loep nemen en eventuele concerns daarbij bespreken. Ook is hier ruimte voor begeleiding bij het maken van de verwerkingsopdrachten die voor AD moeten worden gemaakt.
In de middag is er een werkcollege VD onder begeleiding van de vakdidacticus. Deze colleges worden samen met dio's van hetzelfde vak . Deze colleges worden samen met dio's van hetzelfde vak in verschillende samenstellingen (homogeen en heterogeen) gevolgd.

Bij alle onderdelen (AD, VD en PG) wordt een actieve houding van de student gevraagd, zowel tijdens de bijeenkomsten als daarbuiten. Regelmatig worden er verwerkingsopdrachten gegeven, waar onder begeleiding aan wordt gewerkt. Deze opdrachten worden formatief geëvalueerd, onder andere door middel van (peer)feedback.

Toetsvorm
Didactiek 1 wordt afgesloten met een startproef waarin de studenten demonstreren dat zij één les kunnen ontwerpen en uitvoeren en kunnen reflecteren op de manier waarop voorbereiding, uitvoering en

afronding hebben plaatsgevonden. De proef bestaat uit een lesontwerp (incl. verantwoording op basis van theorie, en eigen leerdoelen bij deze les), een videocompilatie (15 min.) van de gegeven les en een terugblik op de les. Bij het ontwerpen en uitvoeren van de les staan de kernpraktijken behandeld in de colleges algemene didactiek en vakdidactiek centraal (met een focus op de les en de leerling). De terugblik op ontwerp en uitvoering vindt plaats aan de hand van de de perspectieven van een docent als professional, ontwerper, uitvoerder, pedagoog en teamlid en de daarbij behorende relevante theorie. De proef wordt beoordeeld aan de hand van een beoordelingsformulier gerelateerd aan de rubrics die voor elk van de docentperspectieven zijn geformuleerd voor fase I.

Literatuur
Bij deze cursus worden de volgende algemeen didactische handboeken gebruikt:
- Ebbens, S. & Ettekoven, S. (2016). Effectief leren – basisboek. Groningen: Noordhoff Uitgevers B.V.
- Korthagen, F. & Lagerwerf, B. (2014). Een leraar van klasse. Den Haag: Boom Lemma Uitgevers
- Teitler, P. (2013). Lessen in orde. Bussum: Coutinho.
- Kohnstamm, R. (2009). Kleine ontwikkelingspsychologie: III de puberjaren. Houten: Bohn Stafleu van Loghum.

Oudere edities van bovenstaande boeken zijn over het algemeen goed bruikbaar.

Behalve van bovenstaande literatuur wordt veelvuldig gebruik gemaakt van relevante en actuele wetenschappelijke literatuur. Deze artikelen worden tijdens de cursus ter beschikking gesteld. De literatuur die bij VD gebruikt wordt is afhankelijk van het schoolvak waarvoor wordt opgeleid.

Overige informatie
Beheersing van de inhoud van het desbetreffende schoolvak wordt als voorkennis verondersteld.

Educatieve Minor Didactiek 2

Vakcode	O_EMDID2 ()
Periode	Periode 2+3
Credits	9.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	ir. E.J.F. Scheringa
Examinator	ir. E.J.F. Scheringa
Docent(en)	drs. J.K.W. Riksen, drs. H.R. Goudsmit, drs. Y.G. Meindersma, ir. E.J.F. Scheringa, drs. I. Pauw, drs. C.D.P. van Oeveren, drs. S. Donszelmann, drs. B. Klein, drs. W. Jongejan, drs. L.J. van Well-van Grootheest, dr. H.B. Westbroek, C.L. Geraedts, dr. A.A. Kaal, drs. A.J.C. Monquil, drs. L.A. van der Bruggen, W. Maas, drs. H. Stouthart, F.L. de Vries, drs. J. Quartel MA
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	300

Doel vak
De cursus Didactiek 2 is onderdeel van de tweede en laatste fase (fase II) van de Educatieve Minor van de VU, en loopt parallel aan de cursus Praktijk 2. De cursus omvat verschillende onderdelen die in samenhang worden aangeboden: algemene didactiek (AD), vakdidactiek (VD) en peergroup (PG).

Aan het eind van de cursus heeft de student de nodige algemeen didactische en vakdidactische bagage aan te reiken die nodig is voor het handelen als docent. Hierbij wordt toegewerkt naar de competenties die horen bij een startbekwame tweedegraads docent in het domein onderbouw havo-vwo en vmboTL. Hierbij wordt nadrukkelijk aangesloten bij de ontwikkelingsfase waarin de docent-in-opleiding (dio) zich bevindt (zie inhoud).

Inhoud vak
Net als de cursus Didactiek 1, is Didactiek 2 geordend rondom een aantal voor het beroep van docent fundamentele kernpraktijken. Bij Didactiek 2 staan de volgende kernpraktijken centraal: (1) leerprocessen zichtbaar maken, (2) leerprocessen bevorderen, (3) leerprocessen toetsen, (4) communiceren en leiding geven, (5) leerlingen verantwoordelijkheid geven (van docentgestuurd naar leerlinggestuurd) en (6) aandacht geven aan verschillen. Ten opzichte van de cursus Didactiek 1 wordt de focus verlegd van de (individuele) les naar het leerproces van de leerling. De reikwijdte van het didactisch denken en handelen wordt daarmee ook groter: er worden nu nadrukkelijker reeksen van lessen ontworpen en uitgevoerd.

De genoemde kernpraktijken komen expliciet aan de orde bij AD. Bij VD wordt aangesloten bij deze kernpraktijken en wordt de vertaalslag gemaakt naar het eigen (school)vak. Daarnaast worden bij VD belangrijke vakdidactische concepten en werkwijzen geïntroduceerd.

In de PG staat wederom de eigen onderwijspraktijk van de dio centraal. Waar bij AD en VD de nadruk ligt op de rollen van de uitvoerende en ontwerpende docent en pedagoog, wordt bij PG nadrukkelijk vorm gegeven aan de rol van reflectieve onderzoekende professional. In de PG ontwikkelt de student een visie op het docentschap en zijn rol daarbinnen. De samenhang tussen Didactiek 2 en Praktijk 2 komt onder andere tot stand doordat de dio en de werkplekbegeleider op school suggesties krijgen voor (observatie)opdrachten die kunnen bijdragen aan de ontwikkeling van de competenties die bij deze kernpraktijken horen. Alle inhoudscomponenten uit deze cursus worden tijdens de bijeenkomsten en in verwerking verbonden met de werkplekpraktijk van de student

In de laatste weken van de cursus is er ruimte voor de eigen leervragen en behoefte van de student.

Onderwijsvorm
Alle onderwijs vindt plaats op de instituutsdag (maandag). Studenten zijn de hele dag aanwezig. In de ochtend is er een hoor/werkcollege AD, waarbij dio’s van verschillende vakken samen zitten. De colleges AD worden steeds verzorgd door een tweetal docenten. Na het college AD volgt een PG bijeenkomst, waarbij dio’s van verschillende vakken in kleine groepen en onder begeleiding de eigen onderwijspraktijk onder de loep nemen en eventuele concerns daarbij bespreken. Ook is hier ruimte voor begeleiding bij het maken van de verwerkingsopdrachten die voor AD

moeten worden gemaakt.
In de middag is er een werkcollege VD onder begeleiding van de vakdidacticus. Deze colleges worden samen met dio's van hetzelfde vak in verschillende samenstellingen (homogeen en heterogeen) gevolgd .

Bij alle onderdelen (AD, VD en PG) wordt een actieve houding van de student gevraagd, zowel tijdens de bijeenkomsten als daarom heen. Regelmatig worden er verwerkingsopdrachten gegeven, waar in groepsverband aan wordt gewerkt. Deze opdrachten worden formatief geëvalueerd, onder andere door middel van (peer)feedback.

Toetsvorm
Didactiek 2 wordt afgesloten met een basisproef waarin de studenten demonstreren dat zij een korte lessenreeks kunnen ontwerpen en (deels) uitvoeren en kunnen reflecteren op de manier waarop voorbereiding, uitvoering en afronding hebben plaatsgevonden. De proef bestaat uit een docentenhandleiding bij bestaand lesmateriaal, (incl. een globale planning, drie uitgewerkte lesontwerpen, verantwoording op basis van theorie, en eigen leerdoelen bij deze lessen), een videocompilatie (15 min.) van de gegeven lessen en een terugblik op ontwerp en uitvoering. Bij het ontwerpen en uitvoeren van de les staan de kernpraktijken behandeld in de colleges algemene didactiek en vakdidactiek centraal (met een focus op de leerling en het leerproces). De terugblik op ontwerp en uitvoering vindt plaats aan de hand van de perspectieven van een docent als professional, ontwerper, uitvoerder, pedagoog en teamlid en de daarbij behorende relevante theorie.
De proef wordt beoordeeld aan de hand van een beoordelingsformulier gerelateerd aan de rubrics die voor elk van de docentperspectieven zijn geformuleerd voor fase II.

Literatuur
Bij deze cursus worden de volgende algemeen didactische handboeken gebruikt:
- Ebbens, S. & Ettekoven, S. (2016). Effectief leren – basisboek. Groningen: Noordhoff Uitgevers B.V.
- Korthagen, F. & Lagerwerf, B. (2014). Een leraar van klasse. Den Haag: Boom Lemma Uitgevers
- Teitler, P. (2013). Lessen in orde. Bussum: Coutinho.
- Kohnstamm, R. (2009). Kleine ontwikkelingspsychologie: III de puberjaren. Houten: Bohn Stafleu van Loghum.
Oudere edities van bovenstaande boeken zijn over het algemeen goed bruikbaar.

Daarnaast wordt veelvuldig gebruik gemaakt van relevante en actuele wetenschappelijke literatuur. Deze artikelen worden tijdens de cursus ter beschikking gesteld. De literatuur die bij VD gebruikt wordt is afhankelijk van het schoolvak waarvoor wordt opgeleid.

Overige informatie
Beheersing van de inhoud van het desbetreffende schoolvak wordt als voorkennis verondersteld.
Voorwaardelijk voor afronding van Didactiek 2: een voldoende beoordeling van Didactiek 1.

Educatieve Minor Praktijk 1

Vakcode	O_EMPRAK1 ()
Periode	Periode 1

Credits	6.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	ir. E.J.F. Scheringa
Examinator	ir. E.J.F. Scheringa
Docent(en)	drs. J.K.W. Riksen, drs. H.R. Goudsmit, drs. Y.G. Meindersma, ir. E.J.F. Scheringa, drs. I. Pauw, drs. C.D.P. van Oeveren, drs. S. Donszelmann, drs. L.J. van Well-van Grootheest, dr. H.B. Westbroek, C.L. Geraedts, dr. A.A. Kaal, dr. A. Handelzalts, drs. A.J.C. Monquil, drs. J.B. Penninx, drs. L.A. van der Bruggen, W. Maas, drs. H. Stouthart, drs. N.H. Ypenburg, F.L. de Vries, drs. J. Quartel MA
Niveau	300

Inhoud vak
Op de school wordt de aandacht op dezelfde kernpraktijken gericht als gedurende de instituutsopleiding. De werkplekbegeleider is op de hoogte van de onderwerpen die op de instituutdag aan de orde zijn en gebruikt dezelfde rubrics als de instituutsopleiders en vakdidactici om de vorderingen van de studenten te beoordelen.

Onderwijsvorm
Onder begeleiding van de werkplekbegeleider nemen de studenten steeds een groter en actiever aandeel in het lesgeven en werken in de school. Studenten met een baan (zij-instromers, onderwijstrainees etc) geven in dit stadium al zelfstandig les. Bij deze studenten is de nadruk bij de begeleiding vanuit de werkplekbegeleider op het niveau van didactische handelen in de les.

Toetsvorm
Op de school geven de studenten een presentatie over hun prestaties in de eerste acht weken. Dat doen ze aan de hand van de relevante rollen (vier van de vijf waarbij uitvoerder, ontwerper en pedagoog de meeste aandacht krijgen bij de reflectie op het lesgeven). De werkplekbegeleider
gebruikt het beoordelingsformulier gerelateerd aan de rubrics om het functioneren van de student in de klas tijdens de praktijk te evalueren.

Educatieve Minor, Peergroep

Vakcode	O_EMPEERGR ()
Periode	Periode 1+2+3
Credits	0.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	ir. E.J.F. Scheringa
Docent(en)	ir. E.J.F. Scheringa
Lesmethode(n)	Werkgroep, Bijeenkomst
Niveau	300

Doel vak
In de peergroup staat de rol van docent als ‘professional’ centraal. Studenten
leren de regie te nemen over hun eigen leerproces en hun visie op onderwijs te beschrijven. Ze ontwikkelen een professionele identiteit, waarin ze de eisen die het beroep van docent aan ze stelt verbinden met eigen waarden en motieven. In peergroups reflecteren studenten op hun handelen in de praktijk, leiden daaruit ontwikkelpunten af, formuleren acties en evalueren deze. Verschillende instrumenten en methodes worden gebruikt (logboek, reflectiecirkel, intervisie, videoreflectie, etc.) om de student in staat te stellen de complexiteit van de onderwijspraktijk te doorgronden en hiervan te leren.

Environment and Development

Vakcode	S_ED ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	drs. W.A.M. Tuijp
Examinator	drs. W.A.M. Tuijp
Docent(en)	drs. S.L. Di Prima MSc, drs. W.A.M. Tuijp
Lesmethode(n)	Hoorcollege
Niveau	200

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 appreciat 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) Paths to a Green World: the political economy of the global environment. 2nd edition. Cambridge: MIT Press.

Additional literature to be announced in the course manual (see CANVAS).

Doelgroep
Students in the Minor Development Studies;
Students in the Minor Development and Global Challenges;
Open as an elective course for Exchange students;
Open as an elective course for VU students.

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!"

Ethics I

Vakcode	W_BA_ETH1 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. P. Robichaud
Examinator	dr. P. Robichaud
Docent(en)	dr. P. Robichaud
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	100

Doel vak
-Develop a basic understanding of the most important theories in moral philosophy—this includes normative ethics and metaethics.
-Understand the relative strengths and weaknesses of distinct theories.
-Learn how to use concepts and insights from various theories in normative ethics to analyze contemporary moral problems
-Learn how to argue for a particular position in applied ethics debate.

Inhoud vak
Ethics is a branch of philosophy that focuses on questions such as “In virtue of what are actions right or wrong (morally obligatory, morally

permissible, or morally impermissible)?", "What makes a certain state of affairs good or bad?", and "What constitutes a good life?". In this course we will critically explore different theories that offer answers to these questions. These theories include consequentialism, deontology, virtue ethics, care ethics, and contract theory. We will also spend time examining how these ethical theories apply to contemporary moral issues, such as abortion, animal welfare, famine relief, and human enhancement.

Onderwijsvorm
Lectures and workgroups

Toetsvorm
Written exams (60%); Writing assignments (20%); Group Debate (20%)

Literatuur
• Russ Shafer-Landau, The Fundamentals of Ethics (3rd edition), Oxford: Oxford University Press, 2015
• Readings in Canvas

Doelgroep
First year philosophy BA, philosophy premaster, philosophy minor.

Overige informatie
This is a required first year course. It serves as a pre-requisite for the second year course Ethics II.

Ethics of Algorithms

Vakcode	E_MM_ETHA ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. ir. M. van Otterlo
Examinator	dr. ir. M. van Otterlo
Lesmethode(n)	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 Canvas.

EU Governance in an International Context

Vakcode	S_EUGIC ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	H.L.M. Muehlenhoff
Examinator	H.L.M. Muehlenhoff
Docent(en)	H.L.M. Muehlenhoff, H. Mercenier
Lesmethode(n)	Hoorcollege, Studiegroep
Niveau	300

Doel vak
- Gain a basic knowledge of the history of European integration, of the institutional structure of the European Union, and of the key issues in the most important policy fields.
- Introduction to the key approaches to European integration and their application to an understanding of the history and contemporary themes of European Union politics and governance.
- Gain insight into how the European Union affects domestic politics, whilst at the same time being situated in a global context.

Inhoud vak
The European Union has an ever growing influence on political decision-making and policy-making in Europe and its nation-states. This course introduces students to the way the EU operates, its institutional architecture, its history, and its modes of decision-making. The course highlights how EU decision-making affects domestic politics, whilst it is at the same time situated in a broader, international context. Besides attention for the main characteristics of EU decision-making, the course familiarizes students with key theories of European integration (more intergovernmental versus more supranational approaches) and with the interaction between different levels of governance (Multilevel Governance, Europeanisation). These insights are applied in a number of selected policy domains that touch both upon the EU's internal politics (e.g. competition, agriculture, environmental policy) as well as upon its engagement in the global realm (e.g. military interventions).

Toetsvorm
Exam and written assignment.

Literatuur
M. Cini & N. Pérez-Solórzano Borragán (eds.) (2016), European Union Politics. Fourth Edition, Oxford: Oxford University Press
+ articles.

Doelgroep
2nd year Bachelor students Politicologie and Bestuur & Organisatie (Afstudeerrichting Bestuurswetenschappen); Exchange students.

Intekenprocedure
In this course you can not enroll yourself for the tutorials, but you will be assigned by the course coordinator. At the latest in the first week of the course you will find to which tutorial you are assigned in your personal schedule in VUnet.
Note: You do have to register for the course, with the corresponding parts!

Finance

Vakcode	E_IBA2_FIN ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. M.B.J. Schauten

Examinator	dr. M.B.J. Schauten
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	200

Doel vak
In this course we build the foundation for the study of corporate finance and investments. The focus is on financial decision-making in theory and practice (Bridging Theory and Practice). Our coverage of core finance topics includes: i) capital budgeting, ii) asset pricing, and iii) financial investment (Knowledge). Students will learn how to analyse a problem in financial economics and how to leave out irrelevant information (Academic Skills). At the end of the course you are able to select the correct method and/or technique for solving a specific problem in financial economics (Quantitative Skills). By using your knowledge on capital and financial investments, you will be able to further understand and gain insights into current developments in financial economics (Bridging Theory and Practice).

Inhoud vak
The performance of a corporation depends on how well managers succeed in creating shareholder value. We show you how to use tools that are offered by financial theory and help you just doing that: creating value. In this course we discuss three main issues in finance: capital budgeting, asset pricing and financial investments. The capital budgeting decision involves how firms select projects that create value. The theoretically optimal decision rule—the net present value method—is discussed, also in relation to other selection criteria that are applied in practice. The asset pricing part concerns the way financial assets are priced by the market. The focus is on the pricing of shares issued by firms and bonds issued by firms and governments. Questions raised are: How are the term structure of interest rates and promised coupon payments related to bond prices? What is the influence of the expected stream of dividends and the level of market risk of firm’s projects on the price of shares? The financial investment decision is approached from a portfolio perspective and ends with a discussion of the Capital Asset Pricing Model (CAPM).

Onderwijsvorm
Lectures
Tutorials

Toetsvorm
Written exam – Individual assessment
(Interim) tests – Individual assessment
Mandatory attendance tutorials

Literatuur
Required reading:
1) J. Berk en P. DeMarzo, Corporate Finance, Pearson, latest edition.
(This book is also mandatory in the elective Corporate Finance in Emerging Economies - period 2.5).
2) Finance, Text- and Workbook, 2016, second edition, Chapter 1-9, 11-15. This book is available through VU bookstore.

Additional (required) materials will be announced via Canvas.

Aanbevolen voorkennis
1.1 Business Mathematics or equivalent

Food and Quality of Life

Vakcode	E_MG_FQL ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. D.R. Essink
Examinator	dr. D.R. Essink
Lesmethode(n)	Hoorcollege, Werkgroep, Practicum, Computerpracticum
Niveau	200

Doel vak
• Be familiar with main concepts of nutrition science relevant for FNS analysis
• Understand what a healthy diet is
• Understand the relation between diets and quality of life outcomes: physical, mental and social
• Understand (behavioural/environmental reasons for food choices
• Understand differences in food intake/outcome between social groups
• Be able to collect and analyze data regarding food intake and outcomes
• Be able to critically reflect and communicate on contemporaneous FNS quality of life issues, such as the ‘balanced diet’

Inhoud vak
Food and nutrition security are quintessential to quality of life. This course introduces basic health and nutrition science principles to zoom in on the effect of food on individual wellbeing: a balanced diet can contribute to prevent diseases and improve cure rates, improve productivity and nutrition is an important aspect of social relations and wellbeing. The course starts by understanding the composition of nutrition (e.g. what are macro/micro nutrients) and the basic metabolism processes in the body. Thereafter we relate food intake to the concept of a healthy diet and quality nutrition. This student will learn to conduct research into food intake (food frequency questionnaires / 24 hour recalls/food diaries). Thereafter we will relate the food intake to specific health outcomes and conduct basic quantitative analysis into these. The emphasis is on outcomes in relation to health, here we will go into basic measurements such as BMI, stunting, wasting. We will also assess how food intake will contribute to improved educational attainment and labor productivity. Students will further understand how foods, even those that contribute to ill health, may positively affect individuals social life’s and their quality of life. Lastly we will also explore how individuals make decision in relation to food intake.

Onderwijsvorm
Lectures, workgroups, practicals, peer review

Toetsvorm
Exam (60%), assignments (30%), presentation (10%)

Literatuur
Book chapters, articles, lectures and other literature made available on Canvas

Vereiste voorkennis
The minor is designed for students from all disciplines. The interdisciplinary nature of the minor broadens the ‘more disciplinary’ perspective taught to students in the major.

Aanbevolen voorkennis
Preferably studetns either have followed the first two courses of the minor or have Insights into nutrition sciences and basic statistical skills

Doelgroep
The main target population is all third year VU bachelor students. Students outside the VU will also be targeted, such as at UvA. Because the minor is interdisciplinary, the minor should also be of interest for economics and health sciences students. We specifically aim for a diverse group as we strongly believe that interdisciplinary research is best taught through active interaction between students from different disciplinary backgrounds.

Overige informatie
Food and nutrition security are quintessential to quality of life. This course introduces basic health and nutrition science principles to zoom in on the effect of food on individual wellbeing: a balanced diet can contribute to prevent diseases and improve cure rates, improve productivity and nutrition is an important aspect of social relations and wellbeing.

Foundations of Business Administration

Vakcode	E_MB_FBA ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. V. Duplat
Examinator	dr. V. Duplat
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	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 Canvas.

Foundations of Microeconomics

Vakcode	E_ME_FM ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	prof. dr. P.A. Gautier
Examinator	prof. dr. P.A. Gautier
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	100

Doel vak
This course introduces you to modern microeconomics. At the end of the course you:
(1) can abstract from irrelevant details.
(2) can apply economic concepts and theory to analyze concrete problems;
(3) are able to interpret economic news.

Inhoud vak
Topics to be discussed are:
• Consumers, sellers and Incentives;
• Perfect competition, Trade;
• Externalities and public goods;
• Labor market/ human capital/unemployment;
• Economics of Information;
• Game theory/ Auctions;
• Socio/behavior economics.

Onderwijsvorm
Lectures and working groups

Toetsvorm
Grade is average of problem sets (30 %) and written examination (70%), 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.

From Cell to Society

Vakcode	W_FCTS ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. P. Verdonk
Examinator	dr. P. Verdonk
Docent(en)	dr. P. Verdonk
Lesmethode(n)	Hoorcollege, Practicum, Studiegroep
Niveau	300

Doel vak
Overall aims of the course (scientific and clinical):
Aim of the course is to offer an in-depth overview of sex/gender and diversity aspects in medicine from cell to society, to provide an overview of sex/gender and diversity and their implications across a wide range of disciplines (e.g. basic science, pharmacology, cardiology, mental health, social medicine) and health conditions. The students practice a critical approach to existing evidence and learn the tools to apply this knowledge to medical practice. Professional development specifically aims towards the integration of learning pathways in particular: development of reflexivity, ethics (social justice), academic development (critical analysis), patient safety (drug development), professional communication.

Learning goals: after the course students are able to
- Describe the meaning of sex/gender and other aspects of diversity for health and illness
- Explain the role of sex/gender and other aspects of diversity for diagnose and therapy and present examples
- Describe and explain the role of diversity in major health issues such as coronary heart disease and lifestyle and mental health problems and apply this knowledge to patient cases
- Describe theoretical developments and concepts in the field of gender and diversity medicine including cultural competence, bias, gender awareness, diversity
- Explain the intersections of aspects of diversity in health and illness (intersectionality perspective)
- Recognize and explain gender and diversity bias in research and practice and its consequences for clinical practice
- Apply a gender and diversity lens to academic papers, research proposals, presentations

Inhoud vak
General background
Health disparities and inequalities exist between men and women across (socio)cultural backgrounds, class, sexual orientation, abilities and age (intersectionality framework). To date, a sex/gender and diversity perspective is insufficiently incorporated in research from fundamental

research to drug trials and in medical practice. Understanding the antecedents of differences and inequalities and their connections to biological and social processes is important to improve quality of health and health care for both women and men across their intersections. In this course, we will give an in-depth overview of the relevance for clinical practice of these issues across a number of disciplines and health conditions . In week 1, we address sex (biological) differences in basic sciences (e.g. clinical conditions, coronary heart disease) and musculoskeletal diseases and we address sex/gender and research, including women's exclusion from drug trials. In week 2, we address how gender (sociocultural aspects) and cultural background are related to public health issues in particular lifestyle, cardiology and we discuss sex/gender and ethnicity in pharmacological treatment. In week 3, we will focus on gender and class (incl. poverty and education) in relation to mental health particularly depression and stress. In week 4, we focus on the intersections between sex/gender, sexual orientation, and cultural/religious background and how they relate to health and health care.

Onderwijsvorm
Lectures and small group practicals

Toetsvorm
- Presentation of an article from the literature list
- Writing a paper on gender and diversity in medicine, topic of choice
- Final examination (open book, open questions)

Literatuur
Articles. A full literature overview will be placed on Canvas

Vereiste voorkennis
Students have to fulfill the requirements of participation in a VUmc School of Medicine minor Bacheloryear 3

Doelgroep
All students with an interest in gender and diversity in medicine from an intersectional perspective

General History

Vakcode	L_GABAALG013 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. S.W. Verstegen
Examinator	dr. S.W. Verstegen
Docent(en)	dr. S.W. Verstegen
Lesmethode(n)	Hoorcollege
Niveau	100

Doel vak
Knowledge and insight in the development of world history and civilizations from antiquity to the present day from a cultural, religious, political, economic and social perspectives.

Acquire basic knowledge necessary for a better understanding of the historical background of different civilizations and their interacting.

Inhoud vak
The course 'general history offers a brief orientation in global history, its general trends from the Antiquity to the present, and its current methods and historiography. The course focuses on the main trends in the history of civilzations all over the world and deliberatedly avoids an European centred world view. Working from the heritage available in Dutch museums the lectures illucidates what we know and what we don't know of our common past. We approach world history by looking at the world of Antiquity, world religions, cultural and scientific history, political, social and economic history and world history from a anthropological perspective.

Onderwijsvorm
Lectures in the English language.

Toetsvorm
Assignments and final exam. Class participation is mandatory (80%).

Literatuur
Eric Vanhaute, World History. An introduction (Londen, 2012).

Vereiste voorkennis
First year completed.

Doelgroep
This minor is open to third year BA students from all disciplines.

Overige informatie
This course is the first course in the minor History. It offers an introduction to the minor and to the study of world history.

Global English

Vakcode	L_ETBAETK209 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. L.M. Rupp
Examinator	dr. L.M. Rupp
Docent(en)	drs. E. Akkerman, dr. L.M. Rupp
Lesmethode(n)	Werkcollege, Hoorcollege
Niveau	200

Doel vak
Knowledge
You are able to describe the salient features of major varieties of English, and the way in which these varieties have evolved. You are able to describe theories of language variation and change, language acquisition, and language and identity, as well as methods in teaching English as a second or foreign language/lingua franca. Your are able to describe the use of corpus analysis as an empirical method for

linguistic research. You are also able to name and describe some of the most important corpora that can be used for research in the area of Global English and research in the area of English linguistics more broadly.

Skills
You are able to apply this knowledge in analyses of concrete situations of the globalization of English, for instance English language-teaching or language policy-making in the domains of education, government and business. You are able to apply corpus linguistic techniques to the analysis of a number of issues in Global English.

Attitude
You are able to present a well-informed perspective of the nature of different Englishes and the impact of the globalization of English on speakers of English around the world.

Communication
You are able to present results of a small linguistic research project of your own on a Wiki page.

Competence
You are able to identify situations in which corpus analysis is useful.

Inhoud vak
In the lecture, we consider the world-wide spread of the English language. We begin with areas where English is spoken as a first language (England, the Celtic countries, the US, Australia, etc.). We then move on to regions where English is spoken as a second language (Africa and Asia) and from there to regions where English is used as a foreign language or lingua franca (e.g. Europe, the Netherlands). We will explore different issues in the globalization of English. These include linguistic aspects (variation in English, World Englishes), social issues (dialect perception, attitude to language, and language and identity), literary concerns (postcolonial literatures), and the impact on education, business and other domains (language policy).

In the seminar, we address issues that have
arisen from the lectures or the reading, and we discuss assignments.

In the practicum you will be introduced to the field of corpus
linguistics
as a research method for analysing linguistic data. You will apply this to the study of Global English.

Onderwijsvorm
Lecture (2 hours per week), seminar (2 hours per week) and practicum (2 hours per week).

Toetsvorm
Exam (50%, individual mark) and a Wikipage on a variety of English (50%, group mark).

Literatuur
Schneider, E.W. 2001. English Around The World. Cambridge.
Other literature and materials will be made available in class and on Canvas.

Vereiste voorkennis
Students must have followed Academic English CIS-L&S Grammar (L_EABAALG103) and Academic English CIS-L&S Writing (L_EABAALG104). Students Minor English should contact the Education Office of FGW for course registration.

Doelgroep
Second-year students CIW and Literature & Society, third-year minor students, and international students.

Overige informatie
Class attendance is obligatory (80%). Particpants will also need to have submitted 80% of the weekly assignments set in order to be assigned a grade for the course.

Global Political Economy

Vakcode	S_GPE ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	dr. M. Hoijtink
Examinator	dr. M. Hoijtink
Docent(en)	dr. M. Hoijtink
Lesmethode(n)	Hoorcollege
Niveau	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.

Onderwijsvorm
Lectures.

Toetsvorm
Written Exam.

Literatuur
Balaam, D.N. and B. Dillman (eds). (2014). Introduction to International Political Economy. Pearson New International Edition (Latest edition). Harlow: Pearson Eduction.

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.

Doelgroep
Students Bachelor Political Science; Minor Political Science; exchange students

Governance and Regulation of Emerging Technologies

Vakcode	R_GRET ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	prof. mr. A.R. Lodder
Examinator	prof. mr. A.R. Lodder
Docent(en)	prof. mr. A.R. Lodder
Lesmethode(n)	Hoorcollege, Leergroep
Niveau	200

Doel vak
The aim of this course is explore various ways to regulate and govern societal changes caused by new technological developments. After this course the student knows and understands the various regulative and goverance instruments, such as laws, regulation via technology, self-regulation, standardisation, and how and when to apply these to new technologies, including so-called disruptive technologies like Ueber, whole genome sequencing, Airbnb, block chain technology.

Inhoud vak
This introductory course of the Minor Technology, Law and Ethics offers an introduction into and overview of ways technology can be regulated. Important general concepts to be discussed are the economy (market

powers), the law (regulation and case law), social conventions and ethics, and the architecture (e.g. the software). Basically three angles can be used to approach a technological development:
1. The Possible: what is technically feasible? (Technology)
2. The Desirable: do we like it, do we want it? (Ethics)
3. The Permissable: do we allow it? do we permit it? (Law)
For all emerging technologies we have to think about these three questions. The answers can roughly be categorized as:
White: It is possible, desirable, and permissable.
Grey: It is possible and permissable, but desirable?
Black: It is impossible, or possible but not permissable.
We will analyze different kinds of emerging technologies, and discuss in what categories we believe they belong (white/grey/black)

Onderwijsvorm
Lectures and tutorials

Toetsvorm
Written exam

Literatuur
Material will be made available via the electronic learning environment

Doelgroep
Apart from regular students, the course is also available for:
Students from other universities/faculties
Contractor (students who pay for one course)

Governance of Global Sustainability

Vakcode	AB_1229 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Aard- en Levenswetenschappen
Coördinator	prof. dr. P.H. Pattberg
Examinator	prof. dr. P.H. Pattberg
Docent(en)	prof. dr. P.H. Pattberg, prof. M. van Vugt
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	300

Doel vak
After this course students:
1. can explain key concepts from social and behavioral sciences relevant for the study of sustainability;
2. can characterize main modes of governance and behavioral triggers;
3. can explain the role of the social system in socio-environmental systems;
4. are aware of methods to quantify/qualify the state of governance and institutional/organizational change;
5. can identify Strengths, Opportunities, Threats and Weaknesses (SWOT) related to specific transitions strategies.

Inhoud vak

How can we govern the transition towards a more sustainable society? What are the mechanisms, interventions and governance approaches that are able to change unsustainable patterns and structures? The course addresses these questions related to people at various levels of aggregation: at the individual and social group level, at the level of organizations (such as the United Nations or the World Trade Organization), and at the level of political institutions (such as the state/government, cities/regions and private/transnational regimes). Our course will consequently survey the existing modes of governance towards behavioral and institutional change: authority, markets and networks. Methods to assess governance and transformative change are addressed and students identify for their specific case studies what strengths, opportunities, weaknesses, and threats are associated to the ‘people dimension’. The course comprises lectures, workshops and a negotiation simulation and is evaluated through written assignment and a written exam.

Toetsvorm
The course will be evaluated through
1) an assignment, consisting of a) a presentation (10%) and b) a short student report (1500 words) regarding the governance/behavioral aspects of their topic and associated SWOTs (20%).
2) an exam (70%), which will be composed of multiple choice and open questions.

Literatuur
For each week, a selection of articles will be made to be studied in advance. For background reading on the key concepts and empirical issues covered in this class, we will use Encyclopedia of Global Environmental Governance and Policy (edited by P. Pattberg and F. Zelli), Edward Elgar Publishing. There is an affordable paperback version availabel from the VU bookstore. Individual chapters can also be assessed via the VU library's electronic sources.

Aanbevolen voorkennis
Interest in sustainability issues and social questions

Grand Challenges for Sustainability

Vakcode	E_IBA3_GCS ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. G.C. van der Meijden
Examinator	dr. G.C. van der Meijden
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	300

Doel vak
Academic skills / Knowledge
• the biophysics behind global environmental problems such as climate change and biodiversity loss;
• the importance of the 17 Sustainable Development Goals (as agreed upon in 2012 by the UN General Assembly) for achieving sustainable

development;
• the determinants of economic growth and development;
• why the management of natural resources cannot be left to the free market;
• the role of good governance, both by governments and multinational firms, for achieving sustainable development;
• whether the government can, and, if so, how the government should intervene to obtain sustainable development and how to combat poverty, climate change, biodiversity loss, and resource depletion;
• the role of cities, in which more than half of the world population currently lives, for achieving sustainable development

Research skills / Quantitative skills
After successfully completing this course, you are able to explain:
• will be acquainted with theoretical and empirical methods necessary to study economic growth, the effects of market failures, the optimal management of natural resources, the potentially adverse effects of resource abundance, and the effects of different policy interventions

Bridging theory and practice
• you can explain how the management of renewable natural resources, such as fisheries, works in practice (through the experiences you have gained from a game you have played an interactive in-class setting)

Social skills
After successfully completing this course, you able to
• present and actively discuss themes relevant to this course

Broadening your horizon
After successfully completing this course, you able to explain
• the interactions of the world economy, global society, and the natural environment that are important for sustainable development;
• why sustainable development calls for socially inclusive and environmentally sustainable economic growth.

Inhoud vak
Sustainable development is the central challenge of our days. Currently, the Earth is inhabited by 7.2 billion people (9 times more than at the start of the Industrial Revolution in the 18th century) who together produce more than 90 billion US dollars of output (200 times more than at the start of the Industrial Revolution). Both population and output are projected to keep on growing during the next decades. Furthermore, our world is increasingly interconnected through trade, migration, technology diffusion, knowledge flows, and social networks. As a result, human influence on the Earth’s physical processes has been increasing. Nowadays, in the Anthropocene, human activity is even deemed to be the dominant influence on the Earth’s climate and natural environment. Although two decades of economic development have brought widespread prosperity, more than a billion people are still living in extreme poverty. Moreover, by crossing planetary boundaries human activities may plunge the world into a gigantic environmental crisis caused by climate change and biodiversity loss. In order to eradicate poverty and to prevent environmental catastrophes, a transition needs to me made from the business as usual (BAU) to a sustainable development (SD) path. Making this transition requires good governance, not only by governments, but also by citizens and businesses. The objective of this course is to characterize a path of sustainable development and to identify the Grand Challenges that the world faces in making the transition from BAU to the SD path.

The course is organized around the Sustainable Development Goals as adopted by the UN in 2015. The first week will start with a general introduction that sketches several important sustainability issues, illustrated by empirical evidence. During the course, we pay attention to the scientific as well as to the economic and societal dimensions of the identified challenges for sustainability. Furthermore, both the positive or analytical side (i.e., how to make sense of the interactions of the economy, society and the environment?) and the normative or ethical side (i.e., what should be the objectives of a well-functioning society?) of sustainable development will be discussed during the course. The topics that will be dealt with during the course are:
1. Growth and development: capital accumulation and technological change;
2. Ending global poverty, education, and health;
3. Management of natural resources and planetary boundaries;
4. Climate change: climate science and environmental policies;
5. Biodiversity and land-use change; 6. Global governance and resilient cities.

Onderwijsvorm
Lectures (with interactive elements)
Tutorials (including presentation and discussion sessions)
MOOC (to prepare at home for the lectures and tutorials)

Toetsvorm
Written exam – Individual assessment
Interim Assignments – Group assessment

Literatuur
Sachs, Jeffrey D., The Age of Sustainable Development, 2015, Columbia University Press, New York.
Collection of articles.

Aanbevolen voorkennis
Microeconomics

Hadith-wetenschappen

Vakcode	G_HADITHW ()
Periode	Periode 2
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Godgeleerdheid
Coördinator	dr. Y. Ellethy
Examinator	dr. Y. Ellethy
Docent(en)	dr. Y. Ellethy
Lesmethode(n)	Hoorcollege
Niveau	300

Doel vak
De student kan:
- de terminologie op het gebied van de hadithwetenschappen benoemen en definiëren, uitleggen en toepassen.
- vergelijkingen maken tussen westerse historische methodologie en

Hadithmethodologie.
- de niet-islamitische en islamitische kritiek tegen de autoriteit van de Soenna en de betrouwbaarheid van de Hadithmethodologie weergeven, bediscussiëren en hierover argumenteren
- uitleg geven over de belangrijkste concepten van de principes van de hadithwetenschappen [ul al-adth].
- de inhoud van een aantal in het college behandelde Koran- en Hadiththeksten weergeven en deze teksten analyseren en uitleggen volgens de methode van de Koran- en hadithwetenschappen.
- in hoofdlijnen iets vertellen over de hedendaagse discussies en problematiek van de hadith in de moderne tijd.
- de belangrijke Soenna-hadithliteratuur benoemen en hierover uitleg geven.
- de hadiths classificeren en toeschrijven aan een bepaalde autoriteit en deze classificeren.

Inhoud vak
Hadith-wetenschappen is een vervolg op en en verdieping van Inleiding in de Koran en Soenna. De inhoud wordt verdiept met meer aandacht voor: hadithwetenschappen/methodologie, terminologie van de hadithwetenschappen usul/mustalah al-hadith, en de hedendaagse discussies over de autoriteit van de Soenna. Het gaat dus om: geschiedenis van usul al-hadith, classificatie van de hadiths, analyse van isnâd/sanad en matn, relatie tussen Koran en Soenna , deconstructie en beoordeling van een sanad, leeswijze van een sanad, criteria van betrouwbaarheid van een overlevering/overleveraar, aanvaardbaarheid en onaanvaardbaarheid van een hadith, aantasting van een isnâd of matn, hadith commentaar (sharh) en methodes van takhrij van een hadith.

Onderwijsvorm
Hoor- en werkcolleges met schriftelijke opdrachten en tussentijdse papers. Een klassieke bron-tekst (matn) van de hadithmethodologie wordt uitgelegd en ganalyseerd; een aantal relevante artikelen, boekhoofdstukken en hadith teksten worden behandeld. Er wordt aandacht gegeven aan de interactieve deelname van de studenten. Vragen worden aan het begin van het college beantwoord en besproken. Aan het eind van de serie hoorcolleges wordt een werkstuk gepresenteerd, in werkgroep besproken en beoordeeld.

Toetsvorm
schriftelijk tentamen (80%) + schrijfopdracht' (20%)

Literatuur
Verplicht:
- Azami, M., Studies in Hadith Methodology and Literature, Indianapolis: American Trust publications, 1977
- Brown J., "The rules of Matn criticism:There are no rules", Islamic Law and Society 19 (2012), pp. 356-396 (Canvas)

Aanbevolen:
- Ibn Al-Salah, An Introduction to the Science of the Hadith, trans. Dickinson E., Reading: Garnet Publishing Ltd, 2006
- Kamali M., A Textbook of Hadith Studies, Leicestershire: The Islamic Foundation, 2009
- Maloush T., Early Hadith Literature and the Theory of Ignaz Goldziher,

Phd thesis, University of Edinburgh, 2000
- Siddiqi, M., Hadith for Beginners, New Delhi : Goodword Books, 2000
(VU Bibliotheek)

Aanbevolen voorkennis
Inleiding in de Koran Soenna, Arabisch VI, Geschiedenis van de Islam tot 1800.

Overige informatie
Aanwezigheid 80%.

Het boek: papier en digitaal

Vakcode	L_AABAALG067 ()
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. P.H. Moser
Examinator	dr. P.H. Moser
Docent(en)	dr. P.H. Moser
Lesmethode(n)	Werkcollege
Niveau	200

Doel vak
Deze cursus biedt inzicht in actuele ontwikkelingen in het boekenbedrijf. Je krijgt 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.

Inhoud vak
De cursus belicht de digitalisering van het boek aan de hand van zeer recente studies. Op basis van wetenschappelijke achtergrondliteratuur (overwegend in het Engels), discussies in de media en praktijkvoorbeelden (bijv. bestaande edities) krijg je inzicht in de problematiek. Aan de hand van prikkelende stellingen (die aangereikt worden door onderzoekers en professionals) leer je een eigen visie hierop te formuleren. Door de cursus heen verzamel je argumenten om je standpunt te onderbouwen; je legt hiervan een leesdossier aan. De cursus wordt afgesloten met een debat over de stellingen. Er is aandacht voor zowel de wetenschappelijke als de maatschappelijk-culturele aspecten van het vakgebied en de beroepspraktijk. Hiermee is het vak tegelijk onderzoeksgerelateerd en biedt het mogelijkheden voor loopbaan- en arbeidsmarktoriëntatie.

Onderwijsvorm
Werkcolleges

Toetsvorm
De toetsing bestaat uit de volgende onderdelen: portfolio/leesdossier (50%), deelname aan slotdebat (50%).

Literatuur
Het onderstaande is een voorlopige indicatie van het studiemateriaal. De definitieve literatuurlijst wordt minimaal twee weken voor de cursus via Canvas bekend gemaakt. Het studiemateriaal omvat onder meer (delen van):
XXX

Vereiste voorkennis
Geen.

Aanbevolen 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.

Heuristics

Vakcode	X_401012 (401012)
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. J.G. Hubert
Examinator	prof. dr. A.E. Eiben
Docent(en)	prof. dr. A.E. Eiben
Lesmethode(n)	Hoorcollege, Werkcollege, Werkgroep
Niveau	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 form teams of three and choose one of the four predefined problems to solve. 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. These must be implemented and tested in Java or Python.

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. 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.

Vereiste voorkennis
Java or Pyhton programming skills are necessary to implement and test the algorithms students use.

Doelgroep
3BA, 3CS, 3IMM, 3LI

History of Science

Vakcode	X_400652 ()
Periode	Periode 4
Credits	3.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. D.J. Beckers
Examinator	dr. D.J. Beckers
Docent(en)	dr. D.J. Beckers
Lesmethode(n)	Hoorcollege
Niveau	200

Doel vak
De student verwerft kennis over een aantal historische reken-procedures en redeneringen. De student verwerft een globaal overzicht van de historische ontwikkeling van de wiskunde en haar rol in de westerse cultuur. De student verwerft enig inzicht in de maatschappelijke invloeden op de ontwikkeling van de wiskunde en over de waarden die daarin een rol spelen. Daarmee wordt de student in staat gesteld te reflecteren op zijn eigen vakgebied.

Inhoud vak
Diverse onderwerpen uit de geschiedenis van de wiskunde komen chronologisch aan bod. Elk college wordt een historisch stukje wiskunde behandeld. Daarnaast wordt besproken hoe die procedure gezien kan worden binnen de bredere sociale context van die periode en welke waarden een rol speelden bij (de toepassing van) dat stuk wiskunde.

Onderwijsvorm
Hoorcolleges en bijbehorende opdrachten.

Toetsvorm
Schriftelijk tentamen (90%)
Opdrachten (10%)

Literatuur
Teksten, beschikbaar via Canvas.

Doelgroep
Bachelor studenten BA en WI

Overige informatie
Inlichtingen bij de docent: Afdeling Algemene Vorming, De Boelelaan 1081, kamer U-252, d.j.beckers@vu.nl

Honours project Business Analytics

Vakcode	X_417011 ()
Periode	Ac. Jaar (september)
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	drs. H.J.M. van Goor-Balk
Examinator	dr. R. Bekker

Doel vak
The objective of the report is to demonstrate the student's ability to:
- describe a problem in a clear manner (the report should therefore be concise and 'to the point') for the benefit of an expert manager.
- emphasize the business-related aspects of the programme as well as the more fundamental aspects of mathematics and computer science. It is important to know that the research must be of practical importance.
- represent the results of relatively basic research (including any desk study required) which has been conducted entirely by the student concerned. 'Co-productions' are not permitted.
- present the results of that research in an appropriately academic manner. This requirement also applies to the verbal presentation.
- complete the research paper within the allotted period (to include all required research activities).

Inhoud vak
As part of the Honours Programme, students are required to produce a 'thesis'. This is an account of a research project undertaken by the student further to a specific problem statement. The input for this research may involve the use of computer-generated data, although it can also be drawn from the existing literature.

The student records his or her findings in a written report - the research paper - and also gives a verbal presentation. The paper should emphasize the business-related aspects of the programme as well as the more fundamental aspects of mathematics and/or computer science.

Onderwijsvorm
Supervision by a staff member of preferably the Faculty of Science.

Toetsvorm
A written report and a verbal presentation (both in English).

Doelgroep
Honours Programme students 3BA

Intekenprocedure
Students should consult the coordinator to find a topic and a supervisor. If you are planning to write your paper within two months, please make an appointment with Annemieke van Goor (H.J.M.van.Goor-Balk@vu.nl).

Overige informatie
All the information about the Honours project Business Analytics is to be found on Canvas.

Human Rights and Citizenship

Vakcode	R_HumRC (200995)
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	mr. dr. M.C. Stronks
Examinator	mr. dr. M.C. Stronks
Docent(en)	mr. dr. M.C. Stronks, dr. P. Cuttitta
Lesmethode(n)	Leergroep
Niveau	300

Doel vak
After successfully taking this course you 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 analyse the assimilationist shift of mandatory integration measures;
• Scrutinize the temporal dimension of citizenship and the assumed relation between the migrant, the citizen and time;
• Thoroughly scrutinise the reading material and being able to engage with the literature in essays.
• Formulate your own opinion on the central issues of this course, well-informed by the literature and case-law.

Inhoud vak

What and who is a citizen? How does a migrant become a citizen? Which rights do migrants have? And how do these rights develop over time? These are seemingly simple questions, but upon close scrutiny the relation between the citizen and an alien appears to be rather puzzling. Migrants might for example enjoy all kinds of civil rights, while certain citizens might 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 Canvas.

Doelgroep
Apart from law students of 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 the Border

Vakcode	R_HumRB (200996)
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	mr. dr. E.R. Brouwer
Examinator	mr. dr. E.R. Brouwer
Docent(en)	mr. dr. E.R. Brouwer
Lesmethode(n)	Leergroep
Niveau	200

Doel vak
The course aims at increasing your knowledge of the law concerning borders and your understanding of the changing meanings of borders. In particular, you will broaden your knowledge of the different categories of ‘migrants’ created by the law and the attaching differences with regard to the right to cross borders and the sanctioning of illegal border crossing. You will be able to identify relevant domestic, European and international law and to deal with conflicts among them. You will improve your ability to critically reflect on legislation, case-law, and practice concerning borders.

Inhoud vak
The operation of borders and border control in practice may differ greatly from how it may be understood to operate in theory. In this course, the knowledge of the law on borders will be connected to societal reality. In the course Human Rights and the Borders, you will learn to connect knowledge of the law on borders to societal reality. 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, the role of private actors, and the use of technologies at the borders. The precise content of the course will be announced on Canvas.

Onderwijsvorm
The course contains of 7 lectures, each lecture is given twice a week. During the course excursions may take place, enabling students to learn how borders work in practice.

Toetsvorm
The course will be concluded with an examination: a written exam which counts for 75%, and an oral presentation which counts for 25% of the final mark.

Literatuur
Will be announced on Canvas.

Doelgroep
This course is open to students of various disciplines who have completed their first year of their Bachelor program. Includes exchange students.

Overige informatie
This course is open to students from various disciplines who have completed their first year of their Bachelor program and exchange students.

Identity, Diversity and Inclusion

Vakcode	S_IDI ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	prof. dr. S. Saharso
Examinator	prof. dr. S. Saharso
Docent(en)	prof. dr. S. Saharso, dr. M.C. de Regt
Lesmethode(n)	Hoorcollege
Niveau	300

Doel vak
This course is part of both the bachelor program Sociology and Social and Cultural Anthropology & Development Sociology. Also, this course is part of the Minor Sociology, the Minor Anthropology, the Minor Development and Global Challenges and the Minor Gender and Diversity. Finally, the course is open as an elective for (international) students.

This course is designed to introduce students to the various issues concerning diversity and inclusion in an increasing globalizing world. The course focuses in particular on contemporary issues concerning processes of inclusion and exclusion in the Dutch/European context. The central questions in this course are:

1. How and why are identities based on ethnicity, gender, class and sexuality constructed by both insiders and outsiders?
2. How do (groups within) European/Dutch societies respond to diversity?
3. What are the relevant mechanisms of inclusion or exclusion?
4. How should we contextualize current debates and practices related to inclusion/exclusion processes in relation to Dutch/European historical developments?

Learning objectives
After having completed this course the student has aquired knowledge and understanding of:
(1) the relevant forms and dimensions of social identities;
(2) theories of identity construction inclusion and exclusion;
(3) the questions, debates and policies on diversity in con-temporary Western societies, and the differences between societies thereof;
(4) the challenges of contemporary developments - such as globalization and individualization- on contemporary forms of diversity.

After having completed this course the student has acquired the competences to:
(5) apply acquired knowledge in the analysis of contemporary forms of diversity.

After having completed this course the student is able to:
(6) take a critical stance in contemporary debates over identity, diversity and inclusion.

Inhoud vak
Identity issues have become very prominent in our globalizing world. While migration is often presented as one of the main causes of the increasing emphasis on identity, other developments, such as those related to (cultural) globalization and economic transformations, have had a strong impact as well. In addition to ethnic and religious diversity, gender inequalities, class differences and issues related to sexual diversity have changed The Netherlands, and other European societies. Ethnicity, gender, class and sexuality are markers of identity, but have also become axes of inclusion and exclusion in contemporary European societies.

This course discusses how ethnic and religious diversity intersect with other forms of diversity. While historical constructions of the nation were already gendered, in contemporary discourses on national identity gender (women) and (homo)sexuality have become more prominent as markers of national inclusion and exclusion. Or, as in Europe ethnic diversity largely coincides with class distinctions, how does this affect feelings of belonging and inclusion? Islamophobic rightwing radicalization and Islamic radicalization are studied as possible reactions to experi-enced threats to identity and/or social exclusion. The course will also zoom in on cases of local conflict and on related contemporary debates, such as feminist solidarity in an age of diversity.

Onderwijsvorm
Lecture.

Toetsvorm
Digital exam.

Literatuur
TBA, a reader including texts by Alba & Foner (2015), Crenshaw (1991) and others.

Doelgroep
Bsc2 SOC, Min SOC, Min SCA Bsc2 CAO, Min G&D, Min D&GC; Exchange

Overige informatie
This course is part of both the bachelor program Sociology and Social and Cultural Anthropology & Development Sociology. Also, this course is part of the Minor Sociology, the Minor Development and Global Challenges and the Minor Gender and Diversity. Finally, the course is open as an elective for (international) students.

Imagining the Dutch:themes Dutch History

Vakcode	L_GCBAALG003 ()
Periode	Periode 1+2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	W.J. de Vries MA
Examinator	W.J. de Vries MA
Docent(en)	M.P. Groten, W.J. de Vries MA
Lesmethode(n)	Hoorcollege
Niveau	200

Doel vak
Learn about the characteristics and dilemma's of Dutch national history by discussing chapters from handbooks, articles and lectures.
Improve knowledge of Dutch modern history (writing) in general and more particularly learn about important themes, such as national history, political history, colonial history and different representations of Dutch history and identity in museums and media.
Throughout the course we will discuss these themes in relation to important concepts such as nationalism, democracy, pillarization and (religious) tolerance.
Being able to integrate information of case studies and guest lecturers into the broader scientific framework that is discussed.
Being able to critically review and discuss mandatory literature, used theories, dominant opinions and information on public websites.
Being able to recognize normative thinking in scientific literature and in the work of historians.

Inhoud vak
A country of cheese and herring, that experienced an extraordinary Golden Age in the seventeenth century. And a country of tolerance, pillarization and consensus democracy. These are just a few examples of how the Netherlands has been imagined in the past and in recent periods

by foreigners and by Dutch citizens themselves. These images tell a story of the Netherlands and are informed by both past and contemporary experiences.
Over the years questions about the true meaning of these images of the Netherlands have been raised. Who are the Dutch? What is ‘typically Dutch’ about the Dutch from an international perspective? What are the differences between how the Dutch themselves and how foreigners have imagined the Netherlands? And how should we deal with these images from an academic perspective?
The course will offer an introduction on Dutch history that is explicitly related to contemporary debates. The lectures of the course focus on themes in Dutch history and will cover a wide range of topics. The historical reasons for the extraordinary economic growth and cultural richness of the Netherlands in the 17th century; the development of the Dutch as a maritime nation in the 18th century; the rise of democracy in the 19th and 20th century; recent debates about the colonial past and immigration.
Discussion among students about the content of the lectures and the course literature is part of this course. Students have to read the literature in advance and have to make exercises. The course is finished with a written exam.

Onderwijsvorm
Lectures (two periods every week one lecture)

Toetsvorm
Written Exam and assingments

Literatuur
To be announced on Canvas.

Doelgroep
Students taking part in program 'Semester in Amsterdam'; International Students; Dutch students interested in Dutch History.

Overige informatie
This course will be provided two times: in periods 1&2 (L_GCBAALG003) and in periods 4&5 (L_GCBAALG004).

Inleiding in de Koran en Soenna

Vakcode	G_INLKOSO ()
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Godgeleerdheid
Coördinator	dr. Y. Ellethy
Examinator	dr. Y. Ellethy
Docent(en)	dr. Y. Ellethy
Lesmethode(n)	Hoorcollege
Niveau	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 (80%); schrijfopdracht' (20%)

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. (Canvas).
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 Canvas.

Overige informatie
Maakt onderdeel uit van Academische Vaardigheden.
Aanwezigheid 80%.

Inleiding Inspanningsfysiologie

Vakcode	B_IF (900115)
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	dr. J.J. de Koning
Examinator	dr. J.J. de Koning
Docent(en)	dr. H.L. Gerrits, prof. dr. H.A.M. Daanen, drs. B.L. van Keeken, dr. J.J. de Koning
Lesmethode(n)	Hoorcollege, Practicum, Werkcollege, Bijeenkomst
Niveau	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 lichamelijk 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 beslaat 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 tentamencijfer 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 Canvas.

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 Psychologie (UM)

Vakcode	P_UINLPSY ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	dr. W. Donk
Examinator	dr. W. Donk

Docent(en)	dr. W. Donk
Lesmethode(n)	Hoorcollege
Niveau	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 o.a. ook de volgende onderwerpen aan bod komen: intelligentie, sociale psychologie, de ontwikkeling, persoonlijkheidsleer, psychopathologie en psychologische behandelmethoden.

Onderwijsvorm
14 colleges

Toetsvorm
- Multiple choice tentamen

Literatuur
-Gazzaniga, M., Heatherton, T., & Halpern, D. (2016). Psychological Science (5th edition). Norton.

Overige informatie
Hoorcolleges worden Engelstalig aangeboden.

Internet Governance

Vakcode	R_InternGov (200331)
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	mr. T.H.A. Wisman
Examinator	mr. T.H.A. Wisman
Docent(en)	prof. mr. A.R. Lodder, mr. T.H.A. Wisman
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	200

Doel vak
At the end of this course students:

• Understand the basics of the Internet;
• Understand the challenges posed by the Internet to national regulation;
• Understand and be able to apply the modalities of Lessig;
• Understand and be able to apply the models of Solum;
• Understand what Internet governance is, both in the broad and the narrow sense and explain how they relate;
• Be able to apply the Lodder & Jiminez model of jurisdiction;
• Know the materials regarding privacy, freedom of expression and

copyright, and be able to apply to this Lessig's modalities and Solum's models.

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 modalities of regulation as introduced by Lawrence Lessig.

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 and modalities of regulation 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%
Exam: 95%

Literatuur
Amongst others: L. Lessig, Code and Other Laws of Cyberspace, (Basic Books, New York 2006)
L.B. Solum, Models of Internet Governance

Material will be made available on Canvas 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)

Introduction Migration Studies

Vakcode	L_GABAALG011 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. N.F.F. Karrouche
Examinator	dr. N.F.F. Karrouche

Docent(en)	prof. dr. P.D. Nyiri, dr. N.F.F. Karrouche, prof. dr. U.T. Bosma
Lesmethode(n)	Hoorcollege
Niveau	100

Doel vak
(1) Students are introduced to the fundamentals of migration studies (including a variety of disciplinary approaches and theoretical concepts, in particular in the fields of anthropology, economics, sociology, history and law). (2) Students are able to identify and understand key theories and analytical concepts in migration studies and their relationship to history and contemporary societies, and to apply these concepts and insights to a diverse range of qualitative data. (3) Students are able to identify and understand social, cultural and economic relations and political organization in the so-called age of migration, from 1500 until present day. (4) Students are able to reproduce, summarize, interpret and critically comment on the substance of the course subject, both orally and in written form. (5) Students are able to present a clear position and personal stance in an academic essay that is substantiated with solid arguments within debates on the topic of migration studies, based on secondary sources and by referring to one or more theoretical concepts.

Inhoud vak
This course introduces students to the study of migration in a wide range of academic disciplines, with special emphasis on socio-economic and cultural history, social and cultural anthropology, and migration and citizenship law. It is intended to acquaint students with theoretical and methodological insights from these disciplines and to familiarize them with old and new concepts in the broad and interdisciplinary field of migration studies. In this course, students focus on the agents of migration, the migrants themselves, as well as the international state and non-state actors and networks that are involved with and also impact the daily lives and activities of these agents of migration. Why do people migrate across borders? What are the different forms of migration and how do specific migration patterns come into being? And when and why do states aim at structuring migration? The course is divided into two sections. During the first three weeks, students tackle basic concepts and theories, such as the push-pull model, structural migration theory, transnationalism, and the concept of diaspora. They also study the global history of migration from 1500 onwards, gaining insight into colonial and postcolonial migration patterns, and the ways in these may or may not continue to influence contemporary migrations. Lastly, students look at the ways in which societies organize and respond to immigration and emigration. In this first part of the course, students not only focus on European history and society, but also gain insight into African, Asian and American migrations. These three weeks assist students in understanding and framing historical and contemporary migration processes and diverse migrant experiences.
The second part of the course departs from a case-study perspective. It does by offering in-depth views into the research of experienced migration scholars in the fields of migration and citizenship law, the anthropology of migration and identity, and socio-economic migration history. Each week, you will learn about a different topic of research into Asian, Middle Eastern and North African, and European migrations, and the different methods and concepts involved and used in each case.

Each guest lecturer will tell you about her or his own experience as a migration researcher. During the seminars, students experiment with the different sources and methods from each discipline. The second part will henceforth prepare you for the experience of conducting your own independent research project.

Onderwijsvorm
Lectures, seminars.

Toetsvorm
Personal essay, written exam.

Literatuur
Khalid Koser, International Migration. A Very Short Introduction, Oxford: Oxford University Press, 2016 (second edition). (Students are required to purchase this book.) Other literature will be announced on Canvas.

Doelgroep
This course is open to students from various disciplines who have completed their first year of their Bachelor program. Exchange Students.

Overige informatie
This course is part of the minor 'Migration Studies'. For history students, this course is complementary to Global Migration History (BA2).

Introduction to Business Analytics

Vakcode	X_400619 ()
Periode	Periode 1+2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	prof. dr. S. Bhulai
Examinator	prof. dr. S. Bhulai
Docent(en)	prof. dr. A.E. Eiben, prof. dr. S. Bhulai
Lesmethode(n)	Hoorcollege, Werkcollege, Excursie
Niveau	100

Doel vak
In this course students get an understanding of the contents and the objectives of the Business Analytics curriculum. There are lectures on relevant aspects of business administration, and through 2 cases students learn to see the connections between the different scientific fields. Also computer and communication skills are part of the course.

Inhoud vak
Through 2 company visits students get introduced to companies having business analytics questions. In each company a case is presented that students solve in a couple of weeks. They hand in different reports and finish with a poster presentation for lecturers and business executives. Parallel to this there are lectures by specialists on different topics in business administration to give the business context to business analytics problems.

Onderwijsvorm
Lectures on business administration by specialists on different topics. Business visits and scheduled time to work on solving the cases.

Toetsvorm
Written reports and poster presentations for the business cases and a written exam for the business administration lectures.

Doelgroep
1BA

Overige informatie
Attendance is compulsory.

Introduction to Digital Innovation

Vakcode	E_MM_IDI ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. J. Andersen
Examinator	dr. J. Andersen
Lesmethode(n)	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 Canvas.

Introduction to Information and the Digital (UvA)

Vakcode	L_AABAUVA001 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. H.M.E.P. Kuijpers
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	100

Doel vak
At the end of the course the student is able to:
• identify and discuss the different types and definitions of information
• understand in outline current theories of information and information use;
• determine how information is applied in different contexts within the humanities and creative industries
• identify and describe different institutional implementations of information and information systems
• recognise and discuss the differences between institutionalised information and its use, and public contexts of information and its use.

Inhoud vak
Information is a fundamental constituent of all areas of public and private life. Whether it's in our media, cultural or economic activities of our social or professional lives, never before has information been so omnipresent. This course introduces you to the study of information as a pervasive and foundational part of public and professional practice, and its social and technical implications. You will be introduced to the concepts of information as data and resource; you will confront both the history and contemporary contexts of archives and digital archivalism; what is the relation of information and data, its assemblage and use; information analysis and visualisation in the humanities; citizen witnessing, social media and ubiquity; and contemporary social contexts of search and discovery.

Onderwijsvorm
Lectures, seminars.

Toetsvorm
Assignments and final paper. For dates and deadlines see the timetable and/or the course manual.

Literatuur
All material will be available via Canvas.

Doelgroep
This course is part of the UVA/VU Minor Digital Humanities

Intekenprocedure
Module registration at the UvA is required. Note that registration will take place from 13 juni t/m 27 juni.
For more information see:
http://coursecatalogue.uva.nl/xmlpages/page/2017-2018-en/search-minor/pr
or: Onderwijsadministratie BG2 +31 20 5254952

Overige informatie
This module is taught at the UvA; UVA code 118211006Y.

Introduction to Programming (Java)

Vakcode	X_400634 ()
Periode	Periode 1+2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	ir. M.P.H. Huntjens
Examinator	ir. M.P.H. Huntjens
Docent(en)	ir. M.P.H. Huntjens
Lesmethode(n)	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
Absolute Java, Walter Savitch, Pearson International Edition, Fifth International Edition, ISBN: 978-0-273-76479-3

Doelgroep
1BA, 1EOR

Islam en Europese cultuur

Vakcode	G_ISLEURCUL ()
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Godgeleerdheid
Coördinator	dr. M. Aulad Abdellah
Examinator	dr. M. Aulad Abdellah
Docent(en)	dr. M. Aulad Abdellah
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	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, 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
schrijfopdracht (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) modulen en behandelt usul al-fiqh kwesties van hoog niveau.
Aanwezigheid 80%.

Islamitische ethiek

Vakcode	G_ISLAMET ()
Periode	Periode 3
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Godgeleerdheid
Coördinator	dr. M. Aulad Abdellah
Examinator	dr. M. Aulad Abdellah
Docent(en)	dr. M. Aulad Abdellah
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	300

Inhoud vak
De module focust op de volgende onderwerpen:
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 %); Schrijfopdracht (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).

Aanbevolen voorkennis
Islamitische ethiek en Arabisch VI

Islamitische theologie/Kalam

Vakcode	G_ISLMTHKAL (100037)
Periode	Periode 2
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Godgeleerdheid
Coördinator	dr. M. Ajouaou
Examinator	dr. M. Ajouaou
Docent(en)	dr. M. Ajouaou
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	200

Doel vak
•De student kan het ontstaan, de ontwikkeling en de fundamenten van de pre-Kalam scholen (al-Murji'a, Khawãridj, Quadarriya 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 ongeloof is? 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 plaatst 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 predistinatieleer, vrije wil, majeure zonden en de meetlat van geloof en ongeloof?

•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%), schrijfopdracht (20%) en afsluitend schriftelijke toets (60%).

Toetsvorm
Active participatie middels collegevoorbereiding, het maken van opdrachten (waaronder schrijfopdracht 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%.

Kopstukken I

Vakcode	W_BA_KOPI ()
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	prof. dr. M. Martijn
Examinator	prof. dr. M. Martijn
Docent(en)	prof. dr. M. Martijn
Lesmethode(n)	Hoorcollege
Niveau	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 gedachtengoed 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

Vakcode	W_BA_KOPII ()
Periode	Periode 2+3
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. J.M. Halsema
Examinator	dr. J.M. Halsema
Docent(en)	dr. J.M. Halsema, dr. C.H. Krijnen
Lesmethode(n)	Hoorcollege
Niveau	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 Canvas.

Doelgroep
Minor studenten; premasterstudenten

Overige informatie
Deze module maakt onderdeel uit van de Universiteitsminor Filosofie.

Law and Ethics of Reproductive Technologies

Vakcode	R_LERT ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid
Coördinator	mr. B.C. van Beers
Examinator	mr. B.C. van Beers
Docent(en)	mr. B.C. van Beers
Lesmethode(n)	Werkcollege
Niveau	300

Doel vak
This interdisciplinary course explores the bioethical, biolegal and biopolitical dilemmas that are raised by technological developments at the intersection of reproductive medicine and genetics.

This course will enable the student to critically
reflect upon legal and ethical dimensions of current public debates on the regulation of assisted reproductive technologies. This course will teach the
student to come to an understanding of the key concepts and categories within legal regulation of reproductive technologies, and to connect these
with various normative ethical theories.
Through an examination of the existing legal frameworks surrounding reproductive and genetic technologies from the perspectives of law and bioethics
against the background of ongoing contemporary political and societal discussions, the student will be trained to integrate ethical reasoning, daily practices and legal rules and regulations into a normative evaluation of these technologies.
In this process the student will be encouraged to take a legally and ethically argued position in scientific debates on current developments in the field of assisted reproductive technologies through written and oral presentations
of a legal and philosophical nature.

Inhoud vak
Technologies at the intersection of reproductive medicine and genetics offer news ways of creating human life. These technologies make it possible to assemble, genetically screen, choose and, possibly, even design one’s future children. How can societies decide who may access these technologies to create what kind of children? Which rights, whose rights and which public values should be taken into account within the regulation of this complex field? And what are the legal and ethical limits to these currently emerging forms of 'liberal eugenics'?

The general focus in this course will be on the role and meaning of human rights and human dignity for the regulation of assisted reproductive technologies.

Topics in this course include:
- law and ethics of prenatal testing
- selective reproduction and ‘designer babies’
- reproductive markets and reproductive tourism

- reproductive rights
- gestational and commercial surrogacy
- wrongful life
- the welfare of future children
- sperm and egg cell donation
- eugenics and human enhancement
- the status of embryos and gametes

Toetsvorm
Paper and/or written exam (to be announced).

Literatuur
All literature will be made available online, and will include legal and philosophical academic literature, legal and political documents, policy reports, news articles and audiovisual materials.

Vereiste voorkennis
No special knowledge of law, philosophy or bioethics is required to be able to participate in this course. A basic knowledge of human rights and a keen interest in the contemporary dilemmas surrounding reproductive technologies are a plus.

Doelgroep
Because this course is also part of a university minor (Technology, Law and Ethics), it is open to students from various academic backgrounds.

Apart from regular students, the course is also available for:
Students from other universities/faculties
Exchange students
Contractor (students who pay for one course)

Linear Algebra

Vakcode	X_400042 ()
Periode	Periode 4+5
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	prof. dr. A.C.M. Ran
Examinator	prof. dr. A.C.M. Ran
Docent(en)	prof. dr. A.C.M. Ran
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	100

Doel vak
After successfully completing this course,
- the student is familiar with the general theory of finite-dimensional vector spaces;
- the student has a working knowledge of the concepts of matrix algebra and finite-dimensional linear algebra;
- the student is familiar with basic applications in differential equations, statistics and geometry.

Inhoud vak

- systems of linear equations
- linear (in)dependence
- linear transformations and matrices
- matrix operations
- determinants
- vector spaces and subspaces
- basis and dimension
- rank of a matrix, dimension theorem
- coordinate systems and change of basis
- eigenvalues and eigenvectors
- diagonalization of matrices
- inner product, length and orthogonality
- orthogonal bases and least-squares problem
- diagonalization of symmetric matrices
- quadratic forms
- singular value decomposition

Onderwijsvorm
2 lectures and 1 exercise class per week

Toetsvorm
written exams and tests

Literatuur
David C. Lay, Stephen R. Lay and Judi J. McDonald, Linear Algebra and its Applications, 5th edition, Pearson Global Edition, ISBN-13 9781292092232

Doelgroep
1BA

Machine Learning

Vakcode	X_400154 (400154)
Periode	Periode 4
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. P. Bloem
Examinator	dr. P. Bloem
Docent(en)	dr. P. Bloem
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	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.
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, 3LI, 3IMM, mBio

Mathematical Optimization

Vakcode	XB_41001 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	prof. dr. J.A. Gromicho Dos Santos
Examinator	prof. dr. J.A. Gromicho Dos Santos
Docent(en)	prof. dr. J.A. Gromicho Dos Santos, drs. B.G. Zweers
Lesmethode(n)	Hoorcollege, Werkcollege, Computerpracticum
Niveau	300

Doel vak
Mathematical optimization is used to take decisions based on quantitative arguments. For most trucks on the road, origin, destination, load and even its route have been determined by an optimization algorithm. The battery life of your phone would be significantly shorter if the chip lay-out was not optimized.
Side-effects of radiotherapy would be more severe if cancer treatment was not personalized with state-of-the-art optimization algorithms.

This course will make you familiar with translating practical problems in optimization models, and with solving those models. The focus on practice rather than algorithms will allow you to succesfully solve the optimization problems you'll encounter in your future.

The course covers linear optimization as well as its generalizations (conic and convex optimization). We will briefly consider optimization under uncertainty. Optimization models will be solved with free

software.

After completing this course:
1. the student can formulate a problem as an optimization problem and reformulate an optimization problem as another optimization problem
2. the student can prove that an optimization problem is convex, can formulate its optimility conditions and dual
3. The student can find solutions to optimization problems with uncertain parameters
4. The student can solve optimization problems on paper
5. The student can numerically solve optimization problems graphically and with free software

Onderwijsvorm
Lectures, computer lectures

Toetsvorm
Exam (60%)
Practical assignments (40%)
Mandatory practical assignments (ungraded)
The practical assignments cannot be repeated. To pass:
- The grade for the exam needs to be 5.0 or higher,
- The weighted average needs to be 5.5 or higher, and
- The mandatory practical assignments need to be completed.

Literatuur
Convex optimization, Boyd & Vandenberghe (pdf freely available)
AIMMS optimization modeling (pdf freely available)
Slides

Vereiste voorkennis
Linear Optimization (Operations Research)

Meesterwerken uit de wereldliteratuur

Vakcode	L_AABAALG020 ()
Periode	Periode 1+2
Credits	12.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. M.J.E. van Tooren
Examinator	dr. M.J.E. van Tooren
Docent(en)	dr. M.J.E. van Tooren, dr. J.F. van der Meulen, dr. J.H.C. Bel, dr. M.H. Koenen, dr. P.H. Moser, prof. dr. D.H. Schram
Lesmethode(n)	Hoorcollege
Niveau	200

Doel vak
Kennismaking met de belangrijkste periodes en stromingen binnen de West-Europese literatuur vanaf de Oudheid 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 (3 uur per week).

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 5.0.

Literatuur
Na een algemene inleiding over theoretische kwesties als periodisering, classificering en canonvorming wordt een dertiental teksten besproken.
NB. Deze opgave is onder voorbehoud, omdat bij het publiceren van de studiegids nog niet alle docenten en hun keuze voor een meesterwerk bekend waren. De definitieve lijst zal zo snel mogelijk op Canvas bekend worden gemaakt.
Lucretius (selectie uit zijn werk);
Tristan en Isolde;
Milton, Het paradijs verloren (Paradise Lost)
Defoe, Robinson Crusoe
Hugo, De klokkenluider van de Notre Dame (Notre Dame de Paris)
Flaubert, Madame Bovary
Oscar Wilde, Het portret van Dorian Gray (The Picture of Dorian Gray)
Couperus, De stille kracht
Thomas Mann, De dood in Venetië (Der Tod in Venedig)
Franz Kafka, De gedaanteverwisseling (Die Verwandlung)
Nabokov, Lolita
Hafid Bouazza, Paravion
Michel Houellebecq, Onderworpen (Soumission)
De teksten mogen zowel in de oorspronkelijke taal als in vertaling gelezen worden. De te lezen secundaire literatuur wordt via Canvas 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 Het boek: papier en digitaal, Schrijvershuisbezoeken en Creative Writing (alle drie 6 studiepunten).

Mentoraat / Tutoraat

Vakcode	X_000008 ()
Periode	Ac. Jaar (september)
Credits	0.0
Voertaal	Nederlands
Faculteit	Faculteit der Exacte Wetenschappen

Coördinator	dr. C.M. Quant
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	100

Doel vak
The tutor meetings are meant to find your way in your study Mathematics or Business Analytics.

Inhoud vak
You take part in a group of about 15 students. The group is guided by a tutor and a student tutor. We meet four times during the first two periods. After some of the meetings there is a social activity (drinks, dinner).

Onderwijsvorm
tutorials

Toetsvorm
The meetings are compulsory for all full time BA and Mathematics students. BA students can only receive credits for the Business Analytics Project 1 and Mathematics students can only receive credits for the course Wiskundig Modelleren 1 if they have participated in the tutor meetings.

Doelgroep
1BA, 1W, 1W-B

Migration, Ethnicity and the Economy

Vakcode	L_GWBAALG002 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	R. Gowricharn
Examinator	R. Gowricharn
Docent(en)	R. Gowricharn
Lesmethode(n)	Werkcollege
Niveau	200

Doel vak
To familiarize oneself with and critically reflect on the ways immigrants have been incorporated and how their exclusion has been legitimized in social and public debates. To gain knowledge of and understand the relation between culture and economics as applied in integration studies. To gain knowledge of and insight into the ways culture generates economic forces and fosters or impedes immigrant incorporation. To learn how to write a position paper in which a personal stance is developed that addresses one of the key debates at the centre of the course.

Inhoud vak
Failing immigrant incorporation in many Western societies has been attributed to immigrant culture. Although an increasing proportion of

immigrants are incorporated in society, they are blamed for their deficient attitudes, ethnic networks and incompatible values. Immigrants are urged to adopt the host society's culture to equalized their own culture and establish equal chances. This message of assimilation had been strongly recommended in public debate and scholarship. Failure to become integrated is often attributed to the persistence of immigrants' cultures. In this reasoning, two issues are downplayed. The first is that the causes of incorporation are determined in the realm of 'culture'. Culture becomes a master concept to explain every negative outcome concerning migrants. Culture also accounts for positive outcomes, since the incorporated migrants allegedly have adopted the host culture. In contrast, as it concerns the native population, the market accounts for incorporation—specifically the labour and housing market. The market is supposedly devoid of culture, as major players are rationally driven to maximize their gains. The second issue consists of a denial of the way culture frames and determines economic forces, including markets. The dominant concept is that economics determine culture (rather than culture determining economics) and that culture is something located outside the economic realm. This conception misrepresents that culture is often constitutive of economics and that the economic actor's culture enables incorporation. This course addresses the relationship between culture and economics. It discusses the current (mis)conceptualization of culture in the field of economics and the related consequences. It exemplifies these issues by discussing the incorporation of immigrants. Basic concepts:
• Labour selection and productivity
• Ethnicity and entrepreneurship
• Consumption of ethnic commodities

Onderwijsvorm
Seminars, guest lectures and an excursion.

Toetsvorm
Weekly assignments (20%), a mid-term essay (20%), presentations (10%) and a position paper (50%).

Literatuur
To be announced.

Doelgroep
This course is open to students from various disciplines who have completed their first year of their Bachelor program. Exchange Students.

Overige informatie
This course is part of the minor 'Migration Studies'.

Mind and Machine

Vakcode	AB_1060 ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Aard- en Levenswetenschappen
Coördinator	dr. L.N. Cornelisse
Examinator	dr. L.N. Cornelisse
Docent(en)	dr. K. Linkenkaer Hansen, dr. L.N. Cornelisse

Lesmethode(n)	Computerpracticum, Werkgroep, Hoorcollege, Excursie
Niveau	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. explain the meaning of key concepts treated in the course and to give examples of where key concepts are already applied (services or products).
2. describe most commonly used forms of, as well as the state-of-the-art and trends in, brain modeling, AI and BCI as disicussed in the course.
3. reproduce the underlying principles of brain modelling, AI and BCI at at the level discussed in the course.
4. reproduce and present with a group of students the content of a scientific paper at the level of a science journalist for a layman audience.
5. provide constructive feedback to fellow students with the aim of improving their oral presentation and is able to use received feedback to improve his/her own oral presentation.
6. 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.
7. formulate a scientifiaclly informed opinion about the ethical aspects of AI and BCI.

Inhoud vak
People have always been fascinated with the idea to create intelligent computers and robots and to integrate computers in the brain to manipulate or enhance
its performance. In this course, the current status is discussed of brain inspired artificial intelligence, realistic computer simulations of the brain an brain-computer interfacing. 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. Students will present with their group a scientific paper describing the key technology of their project. The business proposal is presented to peers and a reviewer during a poster session at the end of the course. In addition, students will discuss the ethical, legal, and philosophical aspects of artificial intelligence and brain-computer-interfacing.

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 and brain-imspired technology

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.

Minor English: English in my own Discipline

Vakcode	L_ETBAALG008 ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. G.A. Dreschler
Examinator	dr. G.A. Dreschler
Docent(en)	dr. G.A. Dreschler
Lesmethode(n)	Werkcollege
Niveau	300

Doel vak
You gain insight into the language used in various text types which are common in your own academic discipline and the professional domains associated with your specialization. After successfully completing this course you will have (i) knowledge of the different types of texts written in your own discipline, either on an academic level or in the professional domain; (ii) insight into linguistic features related to structure, formality and stance in one or two text types in your discipline; and (iii) knowledge of several types of analysis and methods used in genre analysis and corpus linguistics. You will be able to apply these methods independently to a selection of texts from your discipline and use the knowledge gained from these analyses in your own writing.

Inhoud vak
In the first couple of sessions, we will discuss different methods of analysis used in linguistics for analyzing characteristics of texts and apply them to texts. You will then choose one of these methods and apply this in an analysis of a collection of texts in your own discipline, present the preliminary results of your analysis, and write a final research article in which you report on the analysis, following conventions from linguistic papers.

Onderwijsvorm

2 seminars of 2 hours per week in weeks 1 - 3.

Toetsvorm
The grade for this course will be based on the final report (after rewriting) (75%); and the grade for the presentation (25%). To pass the course, you need a minimum grade of 5.5 for both assignments.

Literatuur
Materials will be made available or listed on Canvas.

Vereiste voorkennis
This course is only available as part of the <Minor Engels/Minor in English$gt;. Students must have completed Writing 2 before embarking on this course.

Doelgroep
The <Minor Engels/Minor in English$gt; as a whole is aimed at bachelor and premaster students across the university who want to improve their written English in an academic context. The Minor is not open for students in the BA programme CIW who are following the specialization in English and International Communication.

Overige informatie
The course has obligatory attendance.

Minor English: Grammar and Writing 1

Vakcode	L_ETBAALG007 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. G.A. Dreschler
Examinator	dr. G.A. Dreschler
Docent(en)	drs. I.M.W. 't Hart MPhil, dr. G.A. Dreschler, dr. C.A.M. de Jong
Lesmethode(n)	Hoorcollege, Werkcollege, Instructiecollege, Werkgroep
Niveau	100

Doel vak
After successfully completing this course you will have knowledge of and insight into the language which typifies academic writing in English and into English requirements of text structure, as well as into how these aspects are different from other languages, most importantly Dutch. You have knowledge of and insight into the most important aspects of English grammar, particularly those which typically cause students problems when writing formal English.

You will also be able to write a well-structured English text in a formal style about a subject related to your own study programme, free of serious lexical and grammatical error which would have an adverse effect on the readability of the text. In terms of the Common European Framework of Reference [CEFR], successful completion of this course will bring you to level B2 in terms of communicative competence and B2i in terms of grammatical accuracy and vocabulary control. You will have

greater insight into the strengths and weaknesses of your English writing skills, and knowledge of how to further develop your strengths and reduce your weaknesses.

Inhoud vak
The course consists of a writing and a grammar component. In the writing component of the course the emphasis is on (a) identifying the paragraph structures, sentence structures and kind of language used across a range of academic texts in all kinds of disciplines, and (b) getting to grips with the basic problems involved in writing good, formal English (e.g. differences between English and Dutch, the essentials of English punctuation, formal style). The grammar component consists of a practical introduction to basic aspects of the grammar of contemporary English, with special attention for the problems that students typically have when writing formal English.

Onderwijsvorm
For the writing component: 1 hr per week lecture; 2 hrs per week seminar.
For the grammar component: 1 hr per week lecture; 2 hrs per week seminar.

Toetsvorm
(i) a text of 1000-1200 words on a subject related to the student's own discipline (50%); (ii) a multiple choice computer test on grammar (50%). In order to pass the course students must score a minimum of 5.5 on each component.

Literatuur
Hannay, M. & J.L. Mackenzie (2009). Effective Writing in English. 2nd edition. Bussum: Coutinho.
Book for grammar: to be announced.
Additional materials will be made available on Canvas.

Vereiste voorkennis
At least one year of university study, including experience in writing academic text; premaster students may also follow this course as long as they have completed an academic skills course.

Doelgroep
Bachelor students across the university who want to improve their written English in an academic context; the course is not open for students who have done academic English in their academic core. The course is part of the [Minor Engels/Minor in English] but can also be followed separately.

Overige informatie
The course has obligatory attendance. Note that this is an English writing course rather than simply a writing skills course. The assumption is that participants have already successfully completed an academic skills course in their first two years of university study.

Minor English: Pronunciation and Presentation

Vakcode	L_EABAALG006 ()
Periode	Periode 2
Credits	6.0

Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. L.M. Rupp
Examinator	dr. L.M. Rupp
Docent(en)	dr. L.M. Rupp, dr. T. Krennmayr
Lesmethode(n)	Werkcollege, Hoorcollege
Niveau	200

Doel vak
Regarding pronunciation, you will be able to describe the 10 most common English pronunciation difficulties. You will also be able to describe the effects of particular accent features on intelligibility and credibility in professional
situations. Regarding presentation, you will be able to strategically apply prosodic features and conversational patterns in such a way that they will help you structure and enliven your talk.
By the end of the course, you will be able to fix the 10 most common English pronuncation difficulties in your own pronunciation and you are able to confidently give an oral presentation.

Inhoud vak
In the pronunciation component, we will set goals for the English accent that you wish to develop. We will analyse the 10 most common English pronunciation difficulties (including
commonly mispronounced words), and the effects that these difficulties may have on the intelligibility and credibility of your accent. You will be given tools that help you analyse English pronunciation features and fix features of your own pronunciation accordingly.
As far as the presentation component is concerned, we will focus on those aspects of speech (based a.o. on corpus linguistic research) that help you catch your listener's attention. Many of these aspects come naturally in everyday speech, but seem to be forgotten during more strenuous activities, such as speaking and presenting in a foreign language. This course will make you more aware of those prosodic features (intonation, voice quality) and conversational patterns (questions, pauses, repetition) of speech that you can use to get your message across.

Onderwijsvorm
Pronunciation: Lectures (2 hrs a week) and seminars (1 hr a week)
Presentation: seminars (2 hrs a week)
Lectures and seminars are supported by audiomaterial.
Students are expected to do weekly readings and assignments.

Toetsvorm
Two recordings of your own pronunciation (50%) and a presentation on an academic subject (50%).

Literatuur
Rupp, L. 2013. Uitspraakgids Engels voor professionals. Amsterdam: VU Uitgeverij. International students can use the website accompanying the course book. https://vuuitspraakengels.wikispaces.com

Doelgroep
Students across the university who wish to improve their English pronunciation and presentation skills.

Overige informatie
Class attendance is obligatory (80%). Participants will also need to have
submitted 80% of the weekly assignments set in order to be assigned a grade for the course.

Minor English: Writing 2

Vakcode	L_ETBAALG005 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. G.A. Dreschler
Examinator	dr. G.A. Dreschler
Docent(en)	dr. G.A. Dreschler
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	300

Doel vak
After successful completion of the course students will feel confident that they can write a bachelor dissertation in English and embark on a Master's degree where English is the language of tuition. In terms of the Common European Framework of Reference [CEFR] you will be at level B2 for linguistic accuracy and at the high end of B2 for relevant communicative competence. Specifically, the course aims to help students in:
• getting more practice in writing formal, academic English.
• developing reading skills which will allow them to note linguistic and structural features of relevant academic text types in their own discipline;
• gaining insight into how specific linguistic structures can contribute to text coherence and text cohesion;
• acquiring greater knowledge of the stylistic and rhetorical aspects of written formal texts;
• getting greater insight into the strengths and weaknesses of their English writing skills, and knowledge of how to further develop strengths and reduce weaknesses;

Inhoud vak
The main aim of this course is to further develop your writing skills in English. For this course we focus on your position as a writer in the academic world, i.e. as someone who is engaged in academic discourse. This means that you need to be aware of appropriate structures at sentence level as well as at text level, at ways of using language to refer to other writers, and at ways of using academic language effectively. The emphasis in this course is on (a) gaining more insight into the language and style of your own academic discipline, (b) improving coherence, compactness and readability, and (c) expanding your grammatical repertoire.

Onderwijsvorm
2 hrs per week lecture; 2 hrs per week seminar.

Toetsvorm
There are three assignments for this course: a short comparative essay (30%), a term paper on linguistic and stylistic features of academic texts in one's own discipline (30%), plus a paper of 2000 words on a subject related to your study (40% of the mark).

Literatuur
Hannay, M. & J.L. Mackenzie (2009). Effective Writing in English. 2nd edition. Bussum: Coutinho.
Separate materials available via Canvas.

Vereiste voorkennis
Students must have either (a) completed an introductory academic English course earlier in their university studies or (b) already completed Minor English: Grammar and Writing 1.

Doelgroep
Bachelor and premaster students across the university who want to improve their written English in an academic context, with the exception of students of CIW who are following the specialization in English and International Communication.

Overige informatie
The course has obligatory attendance. If you miss more than two weeks you will not be allowed to complete the course.

Minor's Tutorial in Development and Global Challenges

Vakcode	S_MWDCG ()
Periode	Periode 1+2+3
Credits	0.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	dr. E.W. Bal
Examinator	dr. E.W. Bal
Lesmethode(n)	Studiegroep, Hoorcollege
Niveau	300

Doel vak
The Minorwerklint Development and Global Challenges is a series of tutorials in preparation to the course Urban Studies. These tutorials are meant for students in the Minor Development and Global Challenges only. The tutorials also aim to facilitate the integration of the five courses that constitute the minor.

Inhoud vak
During the entire track (P1 and p2) students will take part in excursions, attend expert lectures and prepare (in teams of 4 students) the short research project that they carry out in P3 as part of the Urban Studies course. During P1, all activities carried out in the will be closely linked to the first two courses taught in the Minor. In P2 students will begin the preparations for their short research projects in Urban Studies.

Onderwijsvorm
Guestlectures, excursions and tutorials

Toetsvorm
To be announced in the course manual (see CANVAS).

Literatuur
To be announced in the course manual (see CANVAS).

Vereiste voorkennis
Active participation in the parallel courses in this Minor

Doelgroep
Students in the Minor Development and Global Challenges

Nation and Migration

Vakcode	S_NM ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	dr. A. Hossain
Examinator	prof. dr. P.D. Nyiri
Docent(en)	prof. dr. P.D. Nyiri, dr. A. Hossain
Lesmethode(n)	Hoorcollege
Niveau	300

Doel vak
This course introduces students to the study of international migration and how the phenomena, perceptions, and policies towards migration reflect and shape the governance and self-perception of nation-states. It is part of the curriculum strand ‘World Making’ and complements the course Identity, Diversity and Inclusion.

Learning objectives:
Knowledge and Understanding. Students have acquired knowledge and understanding of:
(1) key theories, concepts and methods for the study of migration in the social sciences.

Application. Students have acquired the competences to:
(2) apply these to analyse migration dynamics in selected case-studies.

Attitude. Students can demonstrate:
(3) a critical perspective on current events surrounding migration.

Inhoud vak
Today’s debates on migration are often inseparable from nations’ perceptions of themselves and each other. This course discusses the relevance of migration in today’s global world, particularly in relation to: identity concerns (diasporas, transnationalism, nationalism, multicultural societies), development (migration and development) and international political issues (migration governance and ethnography of

the state).

The course introduces students to major theories to understand migration, but privileges the adoption of constructivist approaches. It invites students to look at migration from the perspectives of people engaging in migration directly, of people encountering migrants as new neighbours, or of people tasked with the function of controlling and governing migration. Through this perspective, students engage with processes of community building and belonging, and with the power struggles associated with migration. They acquire a thorough theoretical knowledge and critical understanding of these phenomena and key concepts that can help understand them:

(1) How do migrants construct their identities on the move?
(2) How do transnational communities and diasporas develop?
(3) How do national communities respond to migration and deal with the diversity that derives from it?
(4) How is migration governed and controlled by state apparatuses in migrant countries of origin and destination?
(5) How do the bureaucrats and professionals dealing with migration translate migration policies into everyday practices?
(6) What are the implications of migration for development and social transformation in both origin and destination societies?

Onderwijsvorm
Lectures, case-study presentations, peer discussions

Toetsvorm
Final exam (digital)

Literatuur
To be announced in Canvas

Doelgroep
2nd year bachelor students in Cultural Anthropology and Development Sociology
Students in the Minor Anthropology

Nature versus Nurture

Vakcode	AB_1057 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Aard- en Levenswetenschappen
Coördinator	dr. J.C. Polderman
Examinator	dr. J.C. Polderman
Docent(en)	dr. P. van Nierop, dr. J.C. Polderman
Lesmethode(n)	Practicum, Computerpracticum, Werkgroep, Hoorcollege
Niveau	300

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 studie 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" 7th 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, Fysics, 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:
Prof Bartels (VU-FGB)
Dr. Lewis (University of London, UK)
Dr. van Dongen (VU-FGB)
Dr. Stringer (VU-CNCR)
Prof. Dr. Konijn (VU-Social Sciences)

Prof. Dr. Van Straalen (VU-FALW)
Prof. Dr. Schuengel (VU-FPP)

Neuro- en Revalidatiepsychologie

Vakcode	B_NEURREVPSY (900502)
Periode	Periode 3
Credits	6.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	dr. A. Ledebt
Examinator	dr. A. Ledebt
Docent(en)	dr. A. Ledebt, dr. J.F. Stins
Lesmethode(n)	Hoorcollege
Niveau	200

Doel vak
Na deze cursus kunnen studenten:
- Een overzicht geven van de neuropsychologische aspecten van gedrag en van de motorische problemen en hogere-functiestoornissen na een hersenbeschadiging.
- Van enkele factoren (zoals motorische en sensorische stimulatie en/of motorische oefening) beschrijven welke invloed deze 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 deze cursus staat de vraag centraal welk effect hersenbeschadiging kan hebben op motorisch handelen. We hanteren hierbij een ruime definitie van ‘motoriek’; succesvol bewegen omvat meer dan alleen het bewegen van een ledemaat. Ook processen als aandacht, executief functioneren, emotie, lichaamsrepresentatie, en ruimtelijke oriëntatie zijn noodzakelijke factoren. Met andere woorden, allerlei ‘hogere’ mentale processen participeren in, en ondersteunen, selectie en uitvoering van motorische handelingen. Aangezien deze mentale processen ook op hun beurt kunnen zijn aangedaan tgv. hersenbeschadiging, zal dit ook leiden tot een verminderde kwaliteit van motorisch handelen. Typische syndromen die we zullen bespreken zijn apraxie, neglect, aandachtsstoornissen, en zgn. ‘frontale’ syndromen.

Onderwijsvorm
De cursus bestaat uit hoorcolleges.

Toetsvorm
Schriftelijk tentamen met open- eindvragen en meerkeuzevragen

Literatuur
Losse artikelen. De literatuurlijst en de Cursushandleiding worden tzt online bekendgemaakt.

Aanbevolen voorkennis
Van de deelnemers wordt verwacht dat zij globaal kennis hebben van neuroanatomie en neurofysiologie zoals bijvoorbeeld behandeld in het

boek “Neurowetenschappen, een overzicht” van Ben van Cranenburgh.

New Ways of Working

Vakcode	E_MM_NWW ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. A. Sergeeva
Examinator	dr. A. Sergeeva
Lesmethode(n)	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 before the start of the course.

Vereiste voorkennis
None

Operations Research

Vakcode	X_400618 ()
Periode	Periode 4
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. N.K. Olver
Examinator	dr. N.K. Olver
Docent(en)	dr. N.K. Olver
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	100

Doel vak
Acquaint the student with the use of mathematical techniques for solving deterministic optimization problems. Subjects studied are:
- Modelling with linear and integer linear optimization
- Modelling with dynamic programming
- Solution methods for the resulting mathematical optimization problems
- Basic problems from network optimization and their solution methods

Inhoud vak
The course is a first introduction to optimization problems. We start with linear optimization. Many practical problems allow mathematical formulation as optimization of some linear objective function indecision variables subject to a set of linear constraints in these decision variables. A central theme will be the art of formulating a verbally described practical problem as a linear optimization problem and interpreting the mathematical solution within the original problem. The simplex algorithm for solving the mathematical model will be studied and correctness of this algorithm will be argued.

The modeling power of the linear optimization model will be enhanced by introducing integrality restrictions on decision variables. The branch-and-bound method for solving integer linear optimization will be studied.

Some basic problems from discrete optimization will be presented, with an emphasis on network optimization problems for which efficient algorithms exist, like the minimum spanning tree problem, the shortest path problem and the maximum flow problem. The student will get acquainted with determining the running time of algorithms and the very basics of computational complexity theory.

Integer linear optimization is without doubt the most popular technique for solving hard discrete optimization problems. As an alternative we present dynamic programming, which is both a modeling technique and a solution technique.

Onderwijsvorm
Lectures: 4 hours per week. Seminar: 3 hours per week.

During lectures the material will be presented based on the book. Lecture notes provided will supplement the book.

The seminars are self-active, meaning that students will work on exercises themselves and have the opportunity to ask questions to and hints from the instructors. In rare cases, after noticing common difficulties, instructors may show solutions on the Canvas. The last part of every seminar is devoted to a small selection of exercises that students make in groups of 2 or 3 and hand in for grading.

Toetsvorm
- Exercises to be made weekly during seminars (best 5 out of 6) comprise 25% of the final grade.
- A written exam will constitute the remaining 75% of the final grade.

Literatuur
H. Taha. Operations Research: An Introduction (9th or 10th Edition) + Lecture Notes provided

Vereiste voorkennis
None

Aanbevolen voorkennis
None

Doelgroep
1BA

Philosophy

Vakcode	X_400433 (400433)
Periode	Periode 5
Credits	3.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. ir. G.J.E. Rutten
Examinator	dr. ir. G.J.E. Rutten
Lesmethode(n)	Hoorcollege
Niveau	200

Doel vak
Introduction into four main areas of systematic philosophy.

Inhoud vak
In this course we will explore four fundamental subjects within systematic philosophy:

1. Logic ("laws of reason"),
2. Epistemology ("theory of knowledge"),
3. Metaphysics ("theory of being"),
4. Worldviews ("life orienting narratives").

Each subject will be structured around a key question:

1. What's the origin and nature of the laws of logic?
2. What's knowledge? How to define this concept?
3. Is there an ultimate ground or first cause of reality?
4. Is it possible to rationally compare different worldviews?

Toetsvorm
Multiple choice examination.

Literatuur
All literature for this course will be made available on Canvas in Course Documents. So there is no need to acquire books or readers.

Doelgroep
Bachelor students from 'VU Faculteit der Exacte Wetenschappen (FEW)'.

Intekenprocedure
Vu-net and Canvas

Overige informatie
Een meer uitgebreide beschrijving is te vinden op Canvas.

Philosophy and Neuroethics

Vakcode	W_BA_PNEU ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. G. Meynen
Examinator	dr. G. Meynen
Docent(en)	dr. G. Meynen
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	200

Inhoud vak
In this course students are introduced to the most important schools of thought and key concepts in philosophical and ethical debates on the impact of neurotechnologies on society, more specifically, on healthcare and criminal law. Topics include: the problem of mind and brain, history and philosophy of neuroscience, and assessments of criminal responsibility in light of neuroscientific developments.

Onderwijsvorm
(Interactive) lectures

Toetsvorm
Written exam

Literatuur
See the course manual

Overige informatie
This course is part of the Universiteitsminor Technology, Law and Ethics

Philosophy of Mind II

Vakcode	W_BA_PHMII ()
Periode	Periode 2
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	prof. dr. L.B. Decock
Examinator	prof. dr. L.B. Decock
Docent(en)	prof. dr. L.B. Decock
Lesmethode(n)	Hoorcollege
Niveau	300

Doel vak
De student:
• krijgt inzicht in de evolutie van het menselijke denken
• 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. We bestuderen Dennetts nieuwste boek over de evolutie van het menselijke denken.

Onderwijsvorm
Hoor- en werkcollege

Toetsvorm
Presentatie (20%), schriftelijk tentamen (80%).

Literatuur
Daniel Dennett, From Bacteria to Bach and Back, Norton, 2017.
Geselecteerde aanvullende teksten

Aanbevolen voorkennis
Afronding van het eerste Bachelor jaar van de opleiding wijsbegeerte. Studenten uit andere studierichtingen moeten blijk kunnen geven van enige filosofische voorkennis, b.v. door het hebben gevolgd van een college wijsgerige vorming.

Doelgroep
Bachelor studenten wijsbegeerte, bijvak studenten

Overige informatie
Voor meer informatie, zie t.z.t. de studiehandleiding van dit vak.

Probability Theory

Vakcode	X_400622 ()
Periode	Periode 4+5
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. C.M. Quant
Examinator	dr. C.M. Quant
Docent(en)	dr. C.M. Quant
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	200

Doel vak
After this course:

• The student knows the three axioms of probability and basic formulas to compute probabilities of events.
• The student knows important discrete and continuous probability distributions and their properties and in which contexts these distributions occur.
• The student is able to compute probabilities, expectations and variances using Calculus and combinatorics.
• The student is able to describe interactions between random variables using joint distributions, conditional distributions and expectations, covariance and correlation.
• The student is able to choose an appropriate probability model in a given context.
• The student knows and is able to apply important theorems in probability theory, e.g. Bayes' rule, the law of the unconscious statistician, the law of total expectation, the Central Limit theorem.
• The student is able to obtain the probability distribution of a random variable or a random vector.
• The student is able to formulate the answers of probability exercises in a mathematically correct way.

Inhoud vak
We study experiments in which randomness plays a role. We first consider discrete probability experiments, that is experiments with a countable number of possible outcomes. You can think of tossing dice, shuffling a deck of cards, flipping coins etc. The possible outcomes form a set, the so called sample space. Every subset of this sample space is an event. We assign probabilities to events in a reasonable way, such that the three axioms of probability are satisfied. We compute probabilities in these situations and consider associated concepts like independence, conditional probabilities, random variables and important discrete probability distributions like the Bernoulli, Binomial, geometric, hypergeometric, negative Binomial and Poisson distribution.

We then consider experiments with an uncountable number of possible outcomes and continuous random variables. We treat a number of well-known continuous distributions: the uniform, exponential, normal and exponential distributions. We study joint distributions of several (discrete or continuous) random variables. In this context we treat independence, conditional distributions and expectations, distributions and expectations of functions of random vectors and covariance. We study the Central limit theorem and the normal approximation to the Binomial

distribution.

Onderwijsvorm
lectures and tutorials

Toetsvorm
Midterm and final exam, biweekly quizzes, see Canvas

Literatuur
Sheldon Ross, A first course in probability, 9th edition.

Doelgroep
1W, 1W-B, 1BA, premaster Mathematics

Programming for Humanities and Social Sciences

Vakcode	L_AABAALG069 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. H.D. van der Vliet
Examinator	dr. H.D. van der Vliet
Docent(en)	dr. H.D. van der Vliet, M.C. Postma MA, F. Ilievski, C.M. van Son
Lesmethode(n)	Werkcollege
Niveau	300

Doel vak
Goals of this course:
Get to know the basics of the Python programming language
Become an independent programmer, who is able to find solutions to new problems

Skills you will acquire during this course:
Learn how to deal with unstructured and structured data
Learn how to extract relevant statistics from large amounts of data
Learn how to share your code and results

Inhoud vak
As many humanities researchers use textual resources as their primary object of inquiry, you learn how to analyze the growing amount of digital text using the Python programming language. No programming knowledge is required; we believe that anyone can learn how to program.

You will learn how to extract information from text corpora; deal with different file types (plain text, CSV, JSON); deal with large amounts of data; and visualize and share your results. We will focus on readability and understandability of your code, so that you will be able to share it with others, and reuse your code in the future.

This is a practical course, in which you will get a lot of hands-on experience. Due to the nature of this course, active participation is required.

Onderwijsvorm
Interactive practical sessions.
Although parts of the lectures will be about programming and language processing theory, the focus is on having interactive and practical sessions. Students are expected to actively participate and ask questions.

Toetsvorm
Bi-weekly assignments (60%): The assignments are designed to practice your programming and problem solving skills. Moreover, they allow us to keep track of your progress, and identify topics that require more attention in class.
Midterm exam (40%): The midterm exam is designed to test your knowledge of Python. To pass this course, you need a passing grade (at least 5.5) on the midterm.

Literatuur
To be announced on Canvas. All materials are freely available online. The course materials for 2016/2017 can be found here: https://github.com/cltl/python-for-text-analysis

Vereiste voorkennis
none

Doelgroep
Students of the minor Digital Humanities and Social Analytics. Open to all other Bachelor students.

Overige informatie
This course is part of the minor Digital Humanities and Social Analytics and open for all interested students. Students are required to attend at least 80% of the classes. Students who fail to do so without a valid reason will be excluded from the course.

Project Big Data

Vakcode	X_400645 ()
Periode	Periode 6
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. mr. B.L. Gorissen
Docent(en)	B.A. Kamphorst MSc BA
Lesmethode(n)	Hoorcollege, Werkgroep
Niveau	300

Doel vak
After completing this course:
1. the student can transform and explore data with the command line
2. the student can extract data with regular expressions
3. the student can import and process static and streaming data in Python
4. the student can store and retrieve semi-structured data in and from a database

5. the student can parallelize tasks via MapReduce, threads and/or queues in Python.
6. the student can create appropriate and well formatted visualizations and tables
7. the student can address a research question and report on their findings

Inhoud vak
This course aims to integrate various aspects involved with data science and to teach the fundamentals of working with big data (including an introduction to Hadoop). Topics include visualization of data; preparing data for processing (machine learning or data mining); storing unstructured data; and scaling techniques for working with big volumes of data. Python is used throughout this hands-on course.

Onderwijsvorm
Lectures and Q&A sessions.

Toetsvorm
Hand-in assignments, presentation and a report.
Assignment week 1: 15%
Assignment week 2: 15%
Assignment week 3: 15%
Report: 35%
Presentation: 20%

The weighted average needs to be 5.5 or higher.

Literatuur
Slides

Vereiste voorkennis
Programming experience in any language

Doelgroep
2BA

Project Business Analytics 1

Vakcode	X_400316 ()
Periode	Periode 3
Credits	3.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	prof. dr. S. Bhulai
Examinator	prof. dr. S. Bhulai
Docent(en)	prof. dr. S. Bhulai, M. Frolkova
Lesmethode(n)	Hoorcollege, Practicum
Niveau	100

Doel vak
The objective of the course is to expose students to business analytics in Microsoft Excel: the student should be able to solve (practical) business problems using Excel, to write a management report on it, and to give a clear presentation about it.

Inhoud vak
The course will deal with business modelling and optimisation techniques in Excel. Students will be exposed to simplified business problems that can be solved with methods and techniques that they have been taught in previous courses. This project will also enhance Excel skills and further develop business and academic writing. The project is finalised by individual oral presentations.

Onderwijsvorm
During the course students will work individually as well as in groups of 3 persons.

Toetsvorm
The final assessment is based on individual Excel assignments, a management report for the group assignment, and individual oral presentations.

Doelgroep
1BA

Project Business Analytics 2

Vakcode	X_400572 ()
Periode	Periode 6
Credits	3.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. W. Kager
Examinator	dr. W. Kager
Docent(en)	dr. W. Kager, M. Frolkova
Lesmethode(n)	Hoorcollege, Werkcollege, Computerpracticum
Niveau	100

Doel vak
After completion of this course, the student can
1. use Excel and Crystal Ball to perform Monte Carlo simulations
2. build a simulation model for a practical problem in risk management based on given data
3. analyze and assess risks, and give a recommendation on the basis of this simulation model
4. present his/her approach and results in a written report
5. present his/her approach and results in an oral presentation

Inhoud vak
You will work in teams to solve a simplified business case about risk management using a simulation model in Excel and Crystal Ball. You will use knowledge obtained in other Business Analytics courses in the first year, in particular the courses Probability Theory and Risk Management to build and analyse your model. You will write a report and give an oral presentation on your results and conclusions.

Onderwijsvorm
The course starts with a 2-hour introductory lecture. During the first week of the course you will work on computer assignments in the field

of applied probability theory and risk management. During the second and third week, you will continue with a team project. For both the computer assignments and the team project, 3 hours of computer lab work is scheduled each weekday. The final presentation in the last week of the course will be scheduled on an individual basis.

Toetsvorm
Part A: Five computer assignments (5% of the grade each, 25% in total), submitted either in pairs of individually.
Part B: A written report and simulation model (in Excel) of your team (50% of the grade).
Part C: An individual oral presentation (25% of the grade).
You must complete all parts of the course to receive a final grade.

In case of an insufficient grade, an arrangement to improve your grade will be made on a case-by-case basis.

Doelgroep
1BA

Psychophysiological and Cogn. Appl.

Vakcode	P_BPCAPP ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	prof. dr. J.C.N. de Geus
Examinator	prof. dr. J.C.N. de Geus
Docent(en)	prof. dr. J.C.N. de Geus, dr. D.J. Heslenfeld, dr. ing. E. van der Burg
Lesmethode(n)	Hoorcollege, Practicum
Niveau	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.

Onderwijsvorm
Lectures and practicals.

Toetsvorm
Written examination (50% of grade) of literature and execution of a short data collection experiment (25%) and the signal analysis on the data collected (25%).

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 Stighel, Meeter and Theeuwes, 2006)
f) paper illustrating the use of Eye-movement recording or psychophysics in research
3) Powerpoints of the lectures
More details on BlackBoard

Vereiste voorkennis
Finished 2nd year of the Bachelor Psychology, Education sciences or Movement Sciences

Overige informatie
Course registration must be completed before November 1, as sufficient assistance and rooms for practicals need to be organized up front.

The course is taught in English

As of 2018-19 this course is no longer part of the University minor. Students who still need to complete this course for the UM can contact the course coordinator.

Religions and Gender

Vakcode	G_RELGEN ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Godgeleerdheid
Coördinator	dr. L. Minnema
Examinator	dr. L. Minnema
Docent(en)	dr. L. Minnema
Lesmethode(n)	Hoorcollege

Niveau	300

Doel vak
Learning objectives
• The student is able to describe analytically how certain aspects of gender have been or become an issue in religions
• The student is able to articulate major parallels and differences between a number of religious traditions in their approaches to gender issues in the past and present
• The student is able to switch from the religious insider view to the academic outsider view and back again

Inhoud vak
Course content
This course introduces students to a broad spectrum of religions in the past and present dealing with aspects of gender. Gender issues related to male and female models in religious narratives, historical shifts in the religious status of women, mother goddesses and female power, religious views of homosexuality, notions of masculinity and power in religious politics, will be addressed across cultures and religions. The variety of religious traditions under consideration illustrates religious diversity. But there is more to it. Careful comparisons enable students to discover underlying patterns of similarity.
Six sessions will focus on the following six themes:
1. Male and female role models and stereotypes in ancient narratives: mythological and legendary couples and gender differences in the Babylonian Gilgamesh epic, the Greek Odyssey epic, the Hindu Mahabharata and Ramayana epics
2. The changing religious status of women during three crucial shifts in the world history of religions: the Neolithic, Axial Age, and Modernization breakthroughs
3. Cross-cultural comparison of mother goddesses and female power: the Shinto goddess Amaterasu in Japan, the Hindu goddess Durga in India, the Greek goddess Demeter in Minor Asia
4. The image of Mary in Christianity and Islam: virgin, Madonna, mother, heroine, virtue, saint, queen
5. Religious politics and symbols of masculinity and power in contemporary Hinduism
6. Religious rules and attitudes regarding homosexuality in Buddhism and in Islam

Onderwijsvorm
lectures

Toetsvorm
Assessment - written exam

Literatuur
articles and book chapters (see Canvas)

Vereiste voorkennis
Prerequisites - none

Research Paper Migration Studies

Vakcode	L_GWBAALG003 ()
Periode	Periode 3

Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. N.F.F. Karrouche
Examinator	dr. N.F.F. Karrouche
Docent(en)	dr. N.F.F. Karrouche
Lesmethode(n)	Werkcollege
Niveau	300

Doel vak
(1) Students are able to produce a well structured and well written paper on a self-chosen topic in correct English. The paper will deal with the topic of migration and will be based on secondary scientific literature, an anthropological fieldwork, a historical study or law study, with correct references and citations. (2) Students are able to communicate and discuss their preliminary results in a presentation.

Inhoud vak
This course aims at training and improving students' academic research and writing skills in the field of migration studies and will result in an academic paper of 6000 - 7500 words (footnotes, bibliography and appendices not included). This course will guide students through the various stages of writing a larger academic paper, such as: selecting relevant literature and sources; phrasing a research question; planning, drafting and revising the manuscript and using references. Attention will also be paid to research ethics and scholarly integrity. Students work under the supervision of a migration scholar in the Humanities, Social Sciences or Law faculty. The seminars will outline and introduce main issues of academic writing and will support the research and writing process. The final result of this course is a well-structured research paper which answers a self-selected research question by means of a critical analysis of an anthropological fieldwork, historical study, law study and secondary literature.

Onderwijsvorm
Seminars, independent study.

Toetsvorm
Research paper, presentation.

Vereiste voorkennis
Students have completed the course 'Introduction to Migration Studies'.

Doelgroep
Students enrolled in the Migration Studies minor.

Overige informatie
This course is part of the minor 'Migration Studies'.

Research Project Political Science

Vakcode	S_RPPS ()
Periode	Periode 2+3
Credits	6.0

Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	H.L.M. Muehlenhoff
Examinator	H.L.M. Muehlenhoff
Docent(en)	H. Mercenier
Lesmethode(n)	Studiegroep
Niveau	300

Doel vak
At the end of the course students will have:
- Improved their skills to analyze and interpret political data and evaluate the quality, validity and usefullness of political science research findings;
- Successfully carried out a limited group research project, applying and refining academic, writing and research skills aquired before;
- Shown their ability to work in a team and contribute to a group product;
- Written a group research paper according to the Political Science Writing Guide, and demonstrating their ability to clearly communicate their research findings and the acquired political science knowledge;
- Shown a critical attitude towards political science literature and established points of view;
- Demonstrated intellectual integrity and the ability to be self-critical.

Inhoud vak
This seminar will require students to apply at a more advanced level the academic and research skills they have already acquired within the first year of political science for political science bachelor students or in their own bachelor's for those who follow the minor political science, and apply these skills to a small research project of their own, to be carried out in a small group. The research project will have to address a relevant question pertaining to the content of either of two parallel courses followed in period 2 (EU Governance in an International Context and Global Political Economy in the track Mondiale Politiek or Economie van Markt & Overheid in Nationale Politiek en Bestuur). Class attendence is mandatory.

Onderwijsvorm
Tutorials.

Toetsvorm
Written assignments; class participation.

Literatuur
To be announced.

Doelgroep
Bachelor political science students and minor political science.

Intekenprocedure
In this course you can not enroll yourself for the tutorials, but you will be assigned by the course coordinator. At the latest in the first week of the course you will find to which tutorial you are assigned in your personal schedule in VUnet.
Note: You do have to register for the course, with the corresponding

parts!

Research Tutorial

Vakcode	L_GABAALG014 ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	prof. dr. F.A. van Lieburg
Examinator	prof. dr. F.A. van Lieburg
Docent(en)	prof. dr. F.A. van Lieburg
Lesmethode(n)	Werkcollege
Niveau	300

Doel vak
Individual deepening of your expertise in one of the fields you have studied in the other minor courses.

Inhoud vak
Dependent on your personal choice under supervision of your teacher.

Onderwijsvorm
Self tuition by reading and writing under supervision of your teacher.

Toetsvorm
Paper.

Vereiste voorkennis
Completed other courses in the minor History.

Doelgroep
All BA3 students.

Overige informatie
This research tutorial is part of the minor History.

Revalidatie

Vakcode	B_REVAL (900412)
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	prof. dr. T.W.J. Janssen
Examinator	prof. dr. T.W.J. Janssen
Docent(en)	prof. dr. T.W.J. Janssen
Lesmethode(n)	Hoorcollege, Practicum
Niveau	300

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 (hoorcolleges, een workshop en een bezoek aan een revalidatiecentrum) anderzijds is er een groepsopdracht. De cursusomvang is 6 ects (168u), waarvan de uren per student als volgt zijn verdeeld over beide onderdelen: collegebijeenkomsten (14x2u), workshops en bezoek revalidatiecentrum (12u), tentamen (2u), de uitwerking van de groepsopdracht
(78u), plus tot slot de college- en tentamenvoorbereiding (48u). 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 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 deelcijfers 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 Canvas.

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)

Risk Management

Vakcode	X_400578 ()
Periode	Periode 6
Credits	3.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	prof. dr. R.W.J. Meester
Examinator	prof. dr. R.W.J. Meester
Docent(en)	prof. dr. R.W.J. Meester
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	100

Doel vak
After taking this course you will be able to:
i) explain the concepts of risk and uncertainty;
ii) recognize various forms of risk and uncertainty in situational contexts;
iii) explain and apply several methods to measure and manage risks (a.o. Value at Risk, Expected Shortfall)
iv) explain and apply several methods to reduce or minimize risks (a.o. diversification, hedging)

Inhoud vak
This course is an introduction to the field of risk management. It focuses on obtaining a broad understanding of the concepts of risk and uncertainty and how they can arise in a variety of (not necessarily financial) settings. The course builds upon knowledge acquired in other Business Analytics courses in the first, in particular Probability Theory and Operations Research. The course is also closely related to Project Business Analytics 2, which is taught simultaneously.

Onderwijsvorm
Lectures and tutorial groups.

Toetsvorm
Individual assignments and a written exam.

Literatuur
To be announced.

Doelgroep
1BA

Robot Law and Artificial Intelligence

Vakcode	R_RLAI ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Rechtsgeleerdheid

Coördinator	dr. mr. M. van der Linden
Examinator	dr. mr. M. van der Linden
Docent(en)	prof. dr. A. Lodder
Lesmethode(n)	Hoorcollege, Leergroep
Niveau	200

Doel vak
Robot Law and Artificial Intelligence focuses on the societal impact of technological constructs such as intelligent software, robots, drones and nano-bots. The student will learn and understand the profound influence that the autonomous and intelligent technological constructs may have on society, as well as the ethical consequences and legal implications thereof. The student will be able to develop an academic, sound judgement on the future of a robotic society from an ethical and legal perspective.The student will be able to analyze and critically evaluate the legal-ethical dimensions of issues relating to the use of intelligent software, robots, drones and nano robots.

Inhoud vak
For long Robots and Artificial Intelligence used to belong to science fiction movies and stories as well as was discussed in theoretical academic and popular articles. In recent years both Robots and Artificial Intelligence gradually but strongly is moving away from theory and entering our daily lives. This course focuses on those practical developments, and what role law and ethics play. We do not stick to present technology, but include profecies on how society may change in the not so far off future and what we can and should do about it.

Onderwijsvorm
Lectures and tutorials

Toetsvorm
Assignments

Literatuur
Made available via electronic learning environment, e.g. parts of Robot Law (2016) edited by Calo, Froomkin & Kerr

Doelgroep
Apart from regular students, the course is also available for:
Students from other universities/faculties
Contractor (students who pay for one course).

Schrijvershuisbezoeken

Vakcode	L_NNBAALG002 ()
Periode	Periode 2
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. J.H.C. Bel
Examinator	dr. J.H.C. Bel
Docent(en)	dr. J.H.C. Bel

Lesmethode(n)	Excursie, Werkcollege
Niveau	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 Bas Heijne, de ‘vrije schrijver’ aan de VU 2017-2018, 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 Bas Heijne 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 werk van Bas Heijne 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

Sensomotorische Coordinatie

Vakcode	B_SENSOCOR ()
Periode	Periode 2
Credits	6.0
Voertaal	Nederlands

Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	prof. dr. A.M.L. Kappers
Examinator	dr. C.E. Peper
Docent(en)	dr. C.E. Peper, prof. dr. A.M.L. Kappers
Lesmethode(n)	Hoorcollege, Werkcollege, Practicum
Niveau	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 opdrachtjes 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 Canvas. Deze opdrachten worden niet behandeld tijdens de colleges. Sommige web-labs fungeren primair als een toets van de beheersing van de gedoceerde 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 85% bepaald door de score op dit tentamen en voor 15% 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 Canvas.

Overige informatie
De formateisen en deadline voor het werkstuk worden via Canvas bekend gemaakt.

Service Logistics

Vakcode	X_401084 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. ir. S. Dabia
Examinator	dr. ir. S. Dabia
Docent(en)	dr. ir. S. Dabia
Lesmethode(n)	Hoorcollege, Practicum, Werkcollege
Niveau	300

Doel vak
These days, services take a large share of gross domestic product. In logistics, the focus has traditionally been on product- based operations but not so much on services based operations such as banks, hospitals or airlines. This course discusses logistic aspects of services firms and provides students with:
- an understanding of key concepts in managing logistics in service oriented businesses
- the ability to make quantitative trade-offs in after sales service related logistics decisions

Inhoud vak
Concepts of managing logistics in service oriented businesses:
- Introduction and strategies
- Capacity management
- Demand management
- Delivery management
- Value added services

Onderwijsvorm
Hearing lectures

Toetsvorm
Assignments (30% of the final grade)
Written examination (70% of the final grade)

Literatuur
Provided via Canvas

Doelgroep
3BA

Sets and Combinatorics

Vakcode	X_400621 ()
Periode	Periode 3
Credits	3.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. W. Kager
Examinator	dr. W. Kager
Docent(en)	dr. W. Kager
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	100

Doel vak
After completing this course, the student
1. understands the basic notions, operations and algebraic rules of set theory;
2. can prove set inclusions and set equalities in set theory;
3. can work with the standard sample spaces of Probability Theory, and compute the sizes of such sample spaces and of typical events;
4. can decide whether a given function is injective, surjective and/or bijective;
5. can determine images and preimages of sets under a given function;

6. knows how to construct proofs by mathematical induction.

Inhoud vak
Sets, set operations, the algebra of set theory, the laws of De Morgan, product sets and power sets, standard samples spaces of Probability Theory, basic rules of combinatorics, binomial and multinomial coefficients, binomial and multinomial theorem, cardinality and (un)countability, functions and graphs, principle of mathematical induction.

Onderwijsvorm
In each of the first three weeks: two lectures of 2 hours, and one exercise class of 3 hours. In the fourth week: one lecture of 2 hours and one exercise class of 2 hours before the final exam.

Toetsvorm
Written exam (75%) at the end of the course, and written pretests made in class at the end of the exercise classes (25%). The final grade is the weighted average of the exam and the pretests (a bad grade for one test can be compensated by a good grade for another tests). For the resit exam, the pretests are still taken into account if this is in the student's favour. If the average grade of the pretests is lower than that
of the resit exam, only the grade of the resit exam will count.

Literatuur
Lecture Notes for the course and all additional course materials will be provided through Canvas.

Doelgroep
1BA

Sportpsychologie

Vakcode	B_SPORTPSY (900554)
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	dr. R.R.D. Oudejans
Examinator	dr. R.R.D. Oudejans
Docent(en)	dr. R.R.D. Oudejans
Lesmethode(n)	Hoorcollege
Niveau	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 12 hoorcolleges van elk twee uur en wordt afgesloten met een tentamen. De resterende circa 144 uren zijn voor zelfstudie. Twee van de 12 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

Vakcode	S_SPC ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	dr. E.B. van Apeldoorn
Examinator	dr. E.B. van Apeldoorn
Docent(en)	dr. E.B. van Apeldoorn
Lesmethode(n)	Hoorcollege
Niveau	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 patters 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 political science; Pre-Master course students; exchange students

Statistical Data Analysis

Vakcode	X_401029 (401029)
Periode	Periode 4+5
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. D. Dobler
Examinator	dr. D. Dobler
Docent(en)	dr. D. Dobler, prof. dr. M.C.M. de Gunst
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	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. Statistics (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

Vakcode	X_400004 ()
Periode	Periode 1+2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	M. Frolkova
Examinator	M. Frolkova
Docent(en)	M. Frolkova
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	200

Doel vak
The course Statistics is a first introduction to the basic concepts of mathematical statistics. After completing this course the student can set up a basic statistical model, estimate parameters in the model, formulate and perform standard hypothesis tests and construct confidence intervals.

Inhoud vak
Statistics is the field of inferring conclusions about underlying distributions of observed data. In this course we deal with the topics: statistical models, estimation, hypothesis testing and confidence intervals. The theory is illustrated with a number of practical examples.

In this course, we limit ourselves to parametric statistical models, which means that underlying distributions are known up to some unknown parameter(s).

Onderwijsvorm
Lectures, exercise classes

Toetsvorm
Two written exams

Literatuur
"An introduction to mathematical statistics" by Fetsje Bijma, Marianne Jonker and Aad van der Vaart.

Aanbevolen voorkennis
Students should master calculus and probability theory.

Doelgroep
2BA, 2W

Stochastic Modeling

Vakcode	X_400646 ()
Periode	Periode 1+2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Exacte Wetenschappen
Coördinator	dr. R. Bekker
Examinator	dr. R. Bekker
Docent(en)	dr. R. Bekker
Lesmethode(n)	Hoorcollege, Werkcollege, Deeltoets extra zaalcapaciteit
Niveau	200

Doel vak
Within this course you will get acquainted with stochastic processes and models for waiting lines (queueing models). The learning objectives are:
- To know the assumptions and formulations of some fundamental stochastic processes and queueing models.
- To be able to analyze the fundamental models mentioned above and apply

similar analysis techniques to related models.
- To formulate a model based on a practical situation and recognize which model is applicable.
- To be able interpret the final result of stochastic models and understand the practical implications (like economies of scale, impact of variability and critical load).

Inhoud vak
Stochastic processes and queueing models are often applied to model practical situations where uncertainty is involved. This course mainly focuses on Markov chains and queueing models. A key element is the theoretical development of such models with the emphasis on modeling and its analysis. In addition, the models are motivated by applications.
More specifically, the fundamental stochastic processes and queueing models that we study are: Markov chains in discrete and continuous time, the Poisson process, the M/M/1 queue, the Erlang delay and loss model, birth-death processes, the M/G/1 queue and the waiting-time paradox.

Onderwijsvorm
Lectures and tutorials.

Toetsvorm
Two mid-term exams and a hand-in assignment in period 1 (presented in the 4th week that should be turned in 2 weeks later). The resit involves all material.

Literatuur
Kulkarni, V.G., Introduction to Modeling and Analysis of Stochastic Systems, Springer Texts in Statistics (also available as e-book via UBVU).
Adan, I.J.B.F., and Resing, J.A.C., Queueing Theory, online lecture notes (made available via Canvas)

Aanbevolen voorkennis
Probability theory

Doelgroep
2BA

Strategic Management of Technology and Innovation

Vakcode	E_BK3_SMTI ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	prof. dr. ir. J.J. Berends
Examinator	prof. dr. ir. J.J. Berends
Docent(en)	J.T. Hummel MSc
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	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, tutorials, and lecture slides

Structural Policy

Vakcode	E_ME_SP ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. S. Hochguertel
Examinator	dr. S. Hochguertel
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	300

Doel vak
The objective of this course is to identify, justify, analyze and evaluate policy options to various current economic problems, including issues in the fields of 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:
• environment: externalities, property rights, tragedy of the commons, taxation, climate policy;
• competition policy and regulation: imperfect competition, market power, cartels, price-discrimination, regulation and de-regulation;
• 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;
• development and trade: analysis of living standards, provision of legal and political frameworks, trade protection, WTO.

During the course, both theoretical and empirical economic work in policy context is discussed.

Onderwijsvorm
Lectures; tutorials

Toetsvorm
Grade is average of problem sets (30 %) and written examination (70%), with written exam grade of at least 5.0.

Literatuur
Background reference is: Daron Acemoglu, David Laibson and John A. List, 2016, Economics. Harlow, Essex: Pearson Education Ltd. ISBN13: 978-1-292-07920-2.
We further use J. Anthony Cookson, 2010, Intromediate Economics. (20 US$, ca. 18 EUR), downloadable from www.lulu.com/cookson as well as various academic papers and ancillary textbook chapters, and/or to be announced on Canvas.

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

Aanbevolen voorkennis
The course builds on a previous courses in the Minor Economics program, in particular, Foundations of Microeconomics. Familiarity with contents of that course is assumed. Familiarity includes a working knowledge of how to apply economic models in context and how to select and use appropriate graphical tools of analysis.

Doelgroep
Third-year bachelor students of any major.

Overige informatie
This course is an integral part of the University Minor Economics; participants gain strongly from attending the entire minor program. This course prepares for Applications in Economic Policy, and has intersections with the course Business Cycles and Stabilization Policy.

Sustainability and Environmental Change

Vakcode	AB_1230 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Aard- en Levenswetenschappen
Coördinator	dr. A.J.A. van Teeffelen
Examinator	dr. A.J.A. van Teeffelen
Docent(en)	prof. dr. J.C.J.H. Aerts, prof. dr. G.R. van der Werf, prof. dr. ir. P.H. Verburg, dr. A.J.A. van Teeffelen, T.I.E. Veldkamp MSc
Lesmethode(n)	Hoorcollege, Werkcollege

Doel vak
In this course students learn about the environment's pivotal role in achieving sustainable solutions for human development, mainly focused on global environmental problems. After this course, students:
1. can explain key concepts from the natural sciences relevant for the study of sustainability;
2. can characterize key components of the environment, namely water, land and atmosphere, and can explain key processes affecting their

characteristics;
3. can explain the role of the environment in socio-environmental systems;
4. can identify methods to quantify the state of the environment, and analyze environmental change;
5. can perform SWOT derived from the environmental conditions for specific sustainability challenges.

Inhoud vak
The environment plays a crucial role in supporting societies, for example by providing materials, energy, food, clean air, and clean water. Environmental conditions change over space and time, influenced by both natural and human factors. In this course students learn about the environment's pivotal role in achieving sustainable solutions for human development. Starting from the key environmental components water, land and atmosphere, we characterize environmental change and how that leads to other environmental and societal changes. Methods to assess environmental change are addressed and students identify for their specific case studies what strengths, opportunities, weaknesses, and threats are associated to the 'planet dimension'. The course comprises interactive lectures and exercises and is evaluated through an assignment and a written exam.

Onderwijsvorm
The course is organized in thematic weeks, which provide students with an understanding of the specifics of the dimensions water, land and atmosphere, how these can be studied and how they interact. Each week has 1 to 2 lectures, in parallel to which students develop their assignment. Lectures (H) and assignment are supported by in-class discussions (W), reading material, and exercises.
Lectures (H) 15-20h
Workshops (W) 15-20h
Assignment ~45h
Self study ~80h

Toetsvorm
The course will be evaluated through
1) Group Assignment (A): SWOT analysis in Planet domain for personal case in the form presentation & working paper (30% of final grade)
2) A closed-book written exam (E) (70% of final grade).
A minimum grade of 5.5 is required to pass the course. There is one resit opportunity for the exam. Assignments with a grade lower than 5.5 can be improved once, after which the maximum grade that can be obtained for the assignment is 6.0.

Literatuur
- A textbook that introduces the planetary dimensions of sustainability (TBA)
- Selected articles as announce in the course guide (TBA), including:
o De Fries, R. S., Ellis, E. C., Chapin III, F. S., Matson, P. A., Turner II, B. L., Agrawal, A., … Syvitski, J. (2012). Planetary Opportunities: A Social Contract for Global Change Science to Contribute to a Sustainable Future. BioScience, 62(6), 603–606. http://doi.org/10.1525/bio.2012.62.6.11
o Wu, J. (2013). Landscape sustainability science: Ecosystem services and human well-being in changing landscapes. Landscape Ecology, 28(6), 999–1023. http://doi.org/10.1007/s10980-013-9894-9
- Open data sources, educational software packages, websites, videos etc

Aanbevolen voorkennis
Grand Challenges (minor Sustainability: Global Challenges, Interdisciplinary Solutions. Period 1)

Doelgroep
Students following the minor Sustainability: Global Challenges, Interdisciplinary Solutions.

Overige informatie
The course is coordinated by Dr. Astrid van Teeffelen, and Ted Veldkamp, MSc. Lecturers include Dr. Philip Ward, Prof. Guido van der Werf, Prof. Peter Verburg.

Sustainable Supply Chain Management

Vakcode	E_IBA3_SSCM ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	School of Business and Economics
Coördinator	dr. ir. D.A.M. Inghels
Examinator	dr. ir. D.A.M. Inghels
Docent(en)	dr. ir. D.A.M. Inghels
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	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 quantity 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 Canvas.

Aanbevolen voorkennis
It is recommended that students are familiar with key concepts and techniques from business or operations management and (business) mathematics.

Talent and Talent Identification

Vakcode	B_TALIDENT ()
Periode	Periode 3
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	dr. D.L. Mann
Examinator	dr. D.L. Mann
Docent(en)	dr. D.L. Mann
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	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
Textbook: Baker J., Cobley S., Schorer, J. (2012) Talent identification and development in sport. International perspectives. Routledge: Abingdon, Oxon

Overige informatie
As of 2017-18 this course replaces the course 'Talent en Talentontwikkeling'

Text Mining for Digital Humanities

Vakcode	L_PABAALG004 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. A.S. Fokkens
Examinator	dr. A.S. Fokkens
Docent(en)	drs. E. Maks, dr. A.S. Fokkens
Lesmethode(n)	Hoorcollege, Werkcollege
Niveau	200

Doel vak
In this course, students are trained in systematic text analysis. In particular, we explore the process of identifying and annotating information in historic and contemporaneous texts such as novels, lyrics, letters, newspaper articles, movie scripts, blogs and other other social media texts using manual and automatic methods. They will learn the implications for the theoretical models and concepts they are familiar with in their own discipline. Students will work on a research project of their choice and annotate them in a interdisciplinary context using different tools and

methods. They will apply expert and crowd annotations, develop code-books and compare the results. Finally, they will use a machine-learning program for analyzing text and reflect on the performance of the automatic annotation. We will focus on high-level semantic annotations of, for example, (historic) events, entities and emotions that are of interest to a broader range of humanities and social and computer science students. Students present their findings in a research paper.

Inhoud vak
This module addresses the process of systematic text analysis through human and automatic annotation. Annotations make information that is implicit in data explicit allowing researchers to search their data systematically. This kind of research forces Humanities scholars and social scientists to represent their Interpretation of texts in a data structure. Computer science students will learn about how text mining technologies can be applied in Humanities and Social Sciences. Annotation requires the use of some type of interpretation model and it results in an analysis that can be compared across annotators. As such, annotation can be seen as an important step towards the formalization of humanities and social science as a discipline. The degree to which annotators agree or disagree (the so-called Inter Annotator Agreement) tells us something about the reproducibility of the interpretation process, the matureness of theoretical notions and the criteria used to apply them to real data. Different backgrounds of annotators will lead to different types of annotations. Linguists, (cultural-)historians, social-scientists, and literature-scientists will consider sources and data differently and consequently come to different annotations of the same source/data. The same holds for experts and non-experts. The former are traditionally involved in assigning metadata to sources, the latter do the same in crowd-sourcing initiatives. Finally, annotated data can be used to train machines to do the same. How does this work? Can a machine do better than humans? How do you evaluate this?

Onderwijsvorm
Lecture, Seminar (2 hrs a week each)

Toetsvorm
Paper

Literatuur
To be announced

Vereiste voorkennis
None

Aanbevolen voorkennis
Course: From Object to Data

Doelgroep
3rd year bachelor students, in particular Humanities, Social Science and Computer Science

Overige informatie
This module is taught at the VU. Module registration at the VU is required.

The Developing Brain

Vakcode	AB_1059 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Fac. der Aard- en Levenswetenschappen
Coördinator	dr. M.C. van den Oever
Examinator	dr. M.C. van den Oever
Docent(en)	prof. dr. S. Spijker, dr. R.E. van Kesteren, dr. R.M. Meredith, dr. H.K.E. Vervaeke, dr. M.C. van den Oever
Lesmethode(n)	Practicum, Computerpracticum, Werkgroep, Hoorcollege
Niveau	300

Doel vak
Students acquire a basic understanding of 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. Importantly, early and late brain development is affected by specific genetic factors and vulnerable to changes induced by environmental factors. These alterations can result in neurodevelopmental and neurodegenerative disorders.

In this course, we will discuss pre- and postnatal brain development. We will first focus on early development and its relation to brain disorders such as autism and mental retardation. Then, we will focus on brain development during childhood and adolescence and discuss issues related to this stage of development, such as sexual orientation, gender identity, schizophrenia and the effects of drugs of abuse (alcohol, nicotine). Lastly, concerning the aging brain, we will discuss healthy brain aging as well as specific diseases of aging, such as Alzheimer’s and Parkinson's disease.

Onderwijsvorm
Lectures (34 hours)
Workgroups (7 hours)

Toetsvorm
Exam (E; multiple choice questions and open questions): 80%
Academic skills assignment (A): 20%
Compensation: the average grade of both tests combined has to be >5.5.

Students have the option to resit the exam (E).

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

Literature on Canvas.

Aanbevolen voorkennis
The course 'Cognitive Neuroscience' of the minor 'Brain & Mind'. Alternatively, a basic understanding of neurons, neurophysiology and neuroanatomy is required.

Doelgroep
Students of the minor Brain & Mind.

Overige informatie
This minor course requires a minimum of 25 participants.

The Personal is Political: Biography, Gender and Diversity

Vakcode	L_AABAALG068 ()
Periode	Periode 1
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. D.G. Hondius
Examinator	dr. D.G. Hondius
Docent(en)	dr. D.G. Hondius, dr. B. Boter, dr. J.C.A.P. Ribberink
Lesmethode(n)	Werkcollege
Niveau	200

Doel vak
1. Acquiring knowledge of and insight in the field of historical gender and diversity studies;
2. Acquiring knowledge of and insight in historical research perspectives;
3. Develop academic research skills;
4. Develop writing skills;
5. Develop presentation skills.

Inhoud vak
"The personal is political", was a well-known rallying slogan in the late 1970s women's movement. Modern historical research acknowledges the impact and influence of the many dimensions that shape individual lives, including gender, sexuality and sexual preference, ethnicity, race, age, religion and class. This seminar explores how these intersecting dimensions are present and influence the lives and biographies of politically engaged personalities, famous or unknown, by studying the genre of the political biography, autobiography and life writing. The seminar sets out with a short series of lectures by experts in the field, followed by writing and research assignments. Students will work at an individual paper, based in a biographical research project of their own choice; suggestions will be available. The course ends with student's presentations of their findings.

Onderwijsvorm
Seminar (twice weekly), with assignments and several guest lectures . Meetings are scheduled on Wednesday morning and Friday morning, 10.00-12.45.

Toetsvorm
- Active participation in class including following up the assignments (10%)
- Individual presentation of the outline of the individual research paper and how it links to the common reading in class (15%)
- Final discussion in semi-public seminar (15%)

- Final paper (4000 words) (60%)
Each element has to be satisfactory in order to pass the course.

Literatuur
Literature will be made available for students in the first week of the course.

Vereiste voorkennis
Academic skills course (ACVA) passed.

Doelgroep
BA2 students in History, Humanities, Social Sciences, Philosophy, and Medical Studies.

Overige informatie
This course is part of the Minor Gender and Diversity.

Toegepaste Inspanningsfysiologie

Vakcode	B_TIF (900322)
Periode	Periode 2
Credits	6.0
Voertaal	Nederlands
Faculteit	Fac. der Gedrags- en Bewegingswetensch.
Coördinator	dr. J.J. de Koning
Examinator	dr. J.J. de Koning
Docent(en)	dr. J.J. de Koning, dr. R.T. Jaspers, prof. dr. H.A.M. Daanen
Lesmethode(n)	Hoorcollege, Practicum
Niveau	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, 5th edition.

Materiaal aangeboden via Canvas.

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 Canvas.

Urban Studies

Vakcode	S_UBS ()
Periode	Periode 1+2+3
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Sociale Wetenschappen
Coördinator	dr. F. Colombijn
Examinator	dr. F. Colombijn

Docent(en)	dr. F. Colombijn
Lesmethode(n)	Hoorcollege, Studiegroep
Niveau	300

Doel vak
Knowledge and Understanding. After having completed this course, the student has aquired knowledge and understanding of:
(1) key concepts in urban anthropology;
(2) the ways in which urban development and sustainable development are intertwined.

Application of knowledge and understanding. After having completed this course, the student has acquired the competences to:
(1) apply key concepts from urban anthropology to an ethnographic research in public spaces in Amsterdam;
(2) combine and compare key concepts in urban anthropology in a written argu-ment.

Attitude. After having completed this course, the student demonstrates:
(1) the ability to work in small research teams to carry out a small ethnographic research project;
(2) to report about the research projects in verbal and written form.

Inhoud vak
Cities around the world are centres of economic development, attracting domestic and foreign investors, visitors, and high-skilled and low-skilled migrants. Locked in a global competition for investments, cities need to be developed in a way that they are attractive to investors and become socially and ecologically sustainable. Social sustainability requires that different actors get their fair place in the city, in terms of income opportunities, and a space to dwell, meet, express oneself, and work. Ecological sustainability requires that cities reduce their ecological footprint, compensate environmental damage to the planet, and reuse as many resources as possible. Taking urban space as the focus of our attention in this course, we will go into politics, inequality, lifestyles, and liveability.

Onderwijsvorm
lectures and tutorials

Toetsvorm
written exam (50%) and joint research paper (50%).

Literatuur
To be announced on Canvas.

Aanbevolen voorkennis
There are no requirements, but ideally students have completed the courses Political and Economic Anthropology, and Development and Globalization (for BSc CAO and minor Anthropology), or Development and Globalization and Identity, Diversity and Inclusion (Minor DGC).

Doelgroep
Bachelor 2 Culturele Antroplogie en Ontwikkelingssociologie; Minor Anthropolo-gy; Minor Development and Global Challenges; open as elective course to other students.

Overige informatie
This course fits into several programmes. It is part of the Bachelor Culturele An-tropologie en Ontwikkelingssociologie; it is the closing of the theme block “Development”, but in time follows directly on two courses from the theme block “World Making” (in particular Identity, Diversity and Inclusion, and Nation and Migration). The themes of these courses –politics, inequality, development, globalization, diversity, identity, migration– all return in Urban Studies. In the same vein, Urban Studies is the closing of the minor Development and Global Challenges. For students of the minor Anthropology, the most memorable element will be their first experience with ethnographic fieldwork. While Urban Studies is integrated in all these programmes, the course can also be taken as an elective course of its own. It is the only course on Urban Studies offered in the Faculty of Social Sciences of Vrije Universiteit Amsterdam and it is especially interesting to exchange students who wish to get to know Amsterdam better.

Note that students are expected to attend three meetings of the “studielint” in November-December (all students) and in September-October (only students of the Bachelor Culturele Antropologie en Ontwikkelingssociologie and the minor Anthropology).

Visualizing Humanities and Social Analytics

Vakcode	L_AABAALG066 ()
Periode	Periode 2
Credits	6.0
Voertaal	Engels
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. H.M.E.P. Kuijpers
Examinator	dr. H.M.E.P. Kuijpers
Docent(en)	dr. J.W.H.P. Verhagen, prof. dr. I.B. Leemans, dr. H.M.E.P. Kuijpers
Lesmethode(n)	Werkcollege
Niveau	300

Doel vak
• Students will become familiar with the concepts of data visualization in Digital Humanities and Social Analytics, and acquire practical skills in data visualization techniques such as graphs and digital maps.
• Practical skills will include: processing of spatial data and creating appealing map visualizations in Google Earth, QGIS, ESRI Story Maps and other map services; and the quantitative analysis of textual data (e.g. (social) media data) through AmCAT and R.
• Students will learn to critically reflect on the implications of the selection, structuring and manipulation of data as well as the choice of visualization techniques to present the outcomes of research projects.
• Students will learn to position their own work in the field of Digital Humanities and Social Analytics.
• Students will learn to apply their knowledge by developing their own research projects around a given dataset.
• Students will learn to collaborate in an interdisciplinary group, manage group processes, and communicate their results to an audience of peers and teachers.

Inhoud vak
This course will offer practical training in digital visualization techniques, placed in the broader scope of Digital Humanities and Social Analytics. Visualization of data plays an important role in exploring and analysing quantitative data deriving from large and complex datasets, such as relational databases and text corpora varying from 17th century literature to newspaper archives to tweets. Visualizations can be used both to present the end results of research projects as well as to support all phases of the hermeneutic cycle of questioning, searching, aggregating and analysing data. They may reveal patterns and provide leads for new research questions. In this course students will become familiar with a number of visualization tools and learn to reflect critically on the way they can be used.

An important part of the classes will entail practical training in the processing of spatial and textual data. This course invites you to choose a personal research topic and will teach you basic practical skills in digital mapping and other visualisations to use in your own research. Digital mapping is a powerful visualization tool for both social science and humanities students who study events in space and time. The visualization of textual data will help you to manage and analyse large corpora of texts. You will define and investigate a research question, learn how to create and structure data and how to uncover patterns in your data through visualization. At the end of the course you will be able to use attractive visualizations to present your research results in both oral and written communications.

Onderwijsvorm
Seminar, 2x2

Toetsvorm
Participation, assignments and presentation (40%), research paper (60%)

Literatuur
T.B.A.

Aanbevolen voorkennis
This course is designed for students who study the minor Digital Humanities and Social Analytics. For other students it would be helpful to familiarize with the basics of digital data in advance. Please contact the instructors for more information and advice.

Doelgroep
Students of the UvA & VU faculty of Humanities and Social Sciences, international exchange students as well as students of Informatics (UvA) and Computer Science (VU).

Intekenprocedure
This course is part of the joined UvA/VU Minor Digital Humanities and Social Analytics. This module is taught at the VU. Module registration at the VU is required for UvA students.

Overige informatie
This course is part of the minor Digital Humanities and Social Analytics. This module is
taught at the VU. Module registration at the VU is required.

Wetenschapsfilosofie

Vakcode	W_BA_MWET ()
Periode	Periode 1
Credits	6.0
Voertaal	Nederlands
Faculteit	Faculteit der Geesteswetenschappen
Coördinator	dr. ir. G.J. de Ridder
Examinator	dr. ir. G.J. de Ridder
Docent(en)	dr. ir. G.J. de Ridder
Lesmethode(n)	Hoorcollege
Niveau	300

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 uitdrukkingsvaardigheden 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
• Twee 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