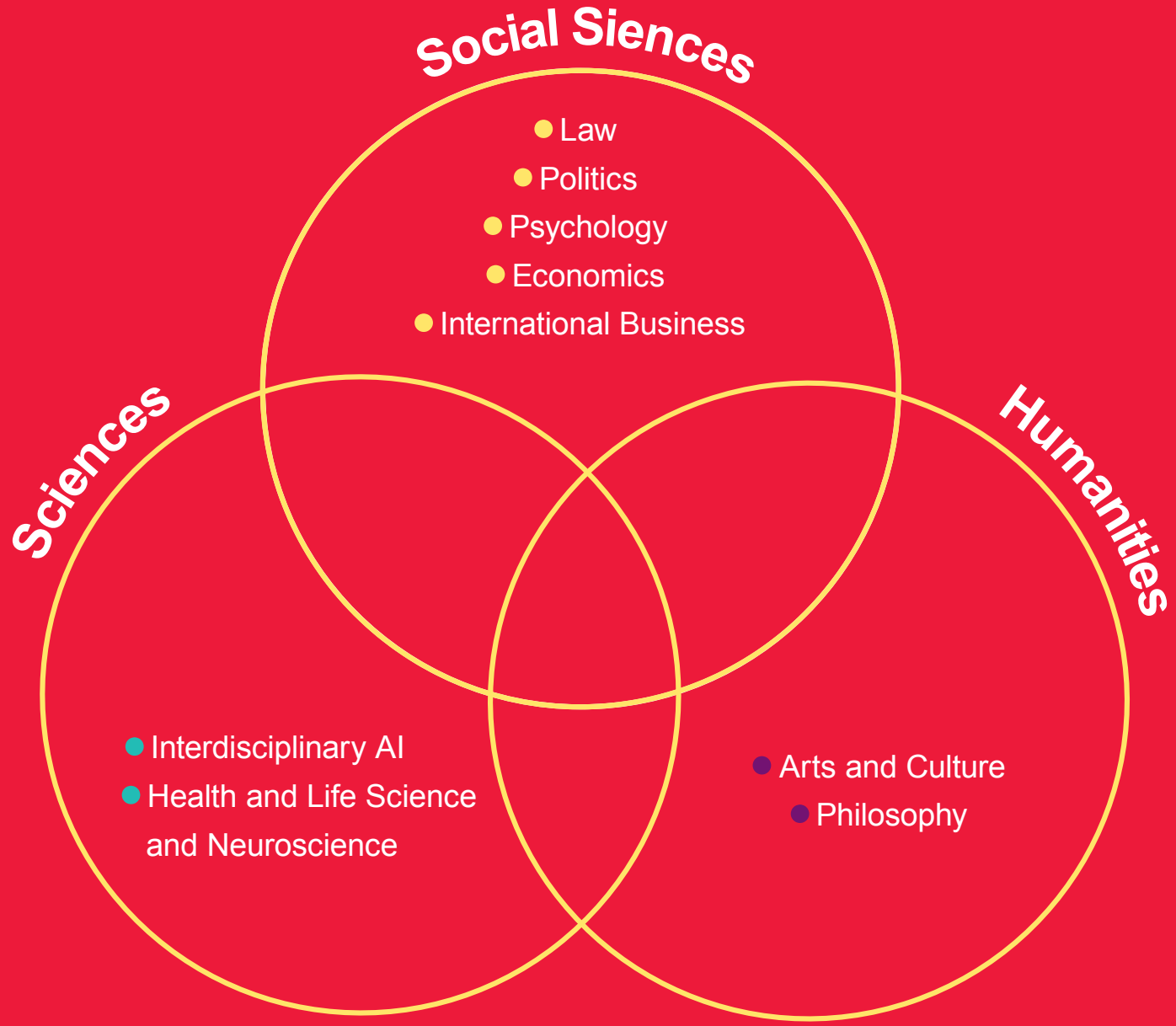
university of groningen / university college groningen

TOP-RATED PROGRAMME UNIVERSITIES KEUZEGIDS 2026

Course Catalogue

University College Groningen
Liberal Arts & Sciences

Academic year
2026-2027



An **interdisciplinary** bachelor's degree at UCG

"Liberal Arts and Sciences education has always been about more than just acquiring knowledge in specific subjects; it's about developing versatile and self-reflective thinkers who can navigate complex issues with creativity and from multiple angles."

- Prof. dr. Joke Fleer
Dean of UCG

Discover the Liberal Arts and Sciences programme at University College Groningen: an interdisciplinary Bachelor's degree designed to broaden your academic horizons.

As a UCG student, you will:

- Complete **Academic Core** courses that develop essential academic and professional skills, including project management, critical thinking, and academic research. *(page 2)*

- Choose two **Challenges of Modern Society** (CMS) electives to explore our fields of study and help you make an informed decision about your courses for Semester Two. *(page 3)*

- Select from a broad range of **elective courses** in Years 1, 2, and 3, including **Research and Methodology** courses. These courses are linked to one or more of the major disciplines: Humanities, Social Sciences, and Sciences. *(page 6 - 10)*

On the following pages, you'll find an overview of all courses offered at UCG. Each elective course is displayed with coloured markers indicating its Major discipline(s), making it easy to find courses that match your academic interests.

In your third year, you have the option to pursue a Minor: a personalised study experience that can take many forms, such as a semester abroad, an internship, or a course package at your own or another faculty/institution. This catalogue does not include the Minor options.

Academic Core:

Academic and Professional Skill 1 and 2

These courses develop academic reading, writing, research, and collaboration skills through project-based learning. Students tackle interdisciplinary problems, evaluate sources, create mixed artefacts, and reflect on teamwork communication, and learning across boundaries.

Introduction to Academic Research

This course introduces methodological approaches across sciences, social sciences, and humanities. Students develop methodological literacy through workshops, fieldwork, experiments, and group projects, learning to compare methods, paradigms, and research tools clearly.

Philosophy of Science

In this course, students explore key philosophical ideas about science, examining concepts such as truth, justification, and the relationship between science, society, and reality, while also engaging in debates relevant to their own academic disciplines.

Project Year 1

In Year 1, students engage in Projects that focus on collaborative creativity, problem-solving, and project management, helping them understand how to tackle complex issues while developing skills in communication, risk-taking, and perseverance.

Project Year 2

In Year 2, students build on their Year 1 skills to conduct interdisciplinary research projects, learning to navigate disciplinary boundaries and communicate their findings innovatively to a broader audience under faculty supervision.

Project Year 3

The overriding theme of Project Year 3 is “leadership”. This refers to student leadership in devising, developing, organising and implementing the project. Student put into action the knowledge and methods learned in the rest of the programme.

Year 1
Challenges of Modern Society:

Challenges of Modern Society: Climate
This course explores climate change through interdisciplinary perspectives, combining lectures, tutorials, and role-playing simulations. Students build theoretical understanding, apply knowledge in discussions, and collaboratively examine the scientific and societal complexities of climate change.

Challenges of Modern Society: Love
This course explores love as a universal human experience shaped by biology, culture, and society. It examines how love is expressed in art and life, and how modern forces—technology, isolation, and social change—affect human connection, belonging, and wellbeing.

Challenges of Modern Society: War
This course examines war from legal, social, and psychological perspectives. It explores types of warfare, international law, and crimes such as genocide and torture, as well as military training, obedience, and conformism. It also addresses accountability, post-conflict justice, victims, and the role of the international community and media.

Challenges of Modern Society: Sensemaking
This course explores sensemaking as a core human behaviour. Drawing on insights from cultural studies, media theory, psychology, neuroscience, linguistics, and the arts, it
examines how meaning is shaped by language, memory, media, and art, combining theory with hands-on practice to study how people construct meaning in a changing world.

Challenges of Modern Society: Oceans
This course explores the world's oceans and their role in climate, ecosystems, and society. It covers ocean origin, waves and tides, biodiversity, pollution, fisheries, shipping, tourism, energy, and human–animal relations. Students develop ocean literacy and present independent research on an ocean-related issue.

Challenges of Modern Society: Disease
This course explores why we get sick and why disease affects populations unequally. It examines how biology, environment, and social conditions shape health, including access to care, living conditions, and lifestyle. Drawing on public health and biology, students analyse health inequalities and real-world disease challenges through multiple perspectives.

Challenges of Modern Society: Understanding Artificial Intelligence
This course introduces artificial intelligence as a real-world technology shaping how we search, write, work, and make decisions. It explains how AI systems learn and fail, and explores their impacts on education, work, and society, alongside ethical questions of responsibility, privacy, and governance.

Year 1 Courses

Artivism

This course explores how art and activism intersect through 'artivism,' investigating the role and responsibility of artists in civic society, global examples of artistic citizenship, and the ways art can be employed to address injustice and inspire social change.

Biochemistry

This course examines life at the molecular level, focusing on proteins, nucleic acids, enzymes, and key biochemical processes, using lectures and study groups to develop critical thinking, scientific reading skills, and understanding of biochemistry in both everyday and clinical contexts.

Biopsychology

This course examines how biology shapes the mind and behaviour, exploring the relationship between mind and body, neuroanatomy, neural physiology, sensory processing, and links to emotion and depression, through seminars, discussions, exercises, and open educational resources.

Cultural Criticism

This course introduces critical cultural theory, covering the Frankfurt School, postcolonial and gender studies, and contemporary critics, combining analysis of society with normative and emancipatory claims, while exploring how theorists intervene in public debates and write on contemporary issues.

Ethics

This course examines ethics and questions of moral behaviour, happiness, well-being, identity, and the philosophy of the self, using philosophical methods, thought experiments, empirical studies, and in-depth discussions to clarify concepts and explore their impact on individual and societal choices.

Fundamentals of Law

This course introduces law, its operation, sources, and application, teaching legal research, argumentation, and statutory analysis, while developing skills to apply the law to current societal issues through case studies, group assignments, moot courts, and written reports on global topics

Human Anatomy

This course introduces human anatomy, examining the structure, organisation, and function of major body systems including thorax, abdomen, pelvis, and nervous system, through lectures, seminars, practicals, dissection materials, and both group and individual assignments

International Business

This course introduces international business through interactive seminars, lectures, case discussions, and group projects, enabling students to explore principles, apply concepts to real-world firms, critically reflect on operations, and engage in debates to develop practical and analytical skills.

Introduction to Sociology

This course examines how individual actions generate unintended social phenomena, exploring coordination mechanisms such as pro-social behaviour, organizations, and governance, while linking micro- and macro-levels, studying sociological theories, and applying concepts in seminars.

Knowledge is Power

This course examines the links between politics, journalism, and citizenship, exploring how information shapes democracy. Students discuss theory and media forms, and conduct projects connecting concepts to current events, with seminars fostering debate and practical application.

Linear Algebra

This course introduces linear algebra, covering matrices, vector spaces, determinants, linear transformations, eigenvalues, eigenvectors, and orthogonality, while applying the theory to real-world problems in business, science, data analytics, AI, robotics, and other disciplines to develop problem-solving skills.

Living Cell 1

This course introduces the molecular and cellular foundations of human health and disease, exploring the cell as life's building block through lectures and study groups, while fostering critical thinking, scientific reading, and insight into modern biomedical research and therapies.

Macro-Economics

This course explores core macroeconomic concepts, covering unemployment, real wages, inequality, GDP, business cycles, inflation, and policy responses, using empirical data and case studies to develop analytical skills for understanding labour markets, fiscal and monetary policy, and global challenges.

Micro-Economics

This course explores microeconomic principles and their real-world applications, covering scarcity, utility, decision-making, game theory, property rights, firm behaviour, market structures, pricing, competition, supply and demand, and government intervention, equipping students to assess policies.

Philosophy of Mind

This seminar explores the philosophy of mind, examining consciousness, the mind–body relationship, the possibility of AI, and the soul, through classical and contemporary texts, discussion, argumentation, thought experiments, and creative methods including art-making to deepen understanding.

Understanding Bias

This course explores bias and discrimination, examining how individual, group, and societal biases form, manifest, and can be addressed. Using philosophy, cognitive science, sociology, and cultural theory, students engage in seminars, discussions, presentations, and exercises to analyse bias critically.

Policy Making in the EU

This course applies political science theories to the EU, combining lectures and tutorials to examine its institutions, policy-making processes, integration theories, interest groups, and implementation challenges, while equipping students with analytical tools for any political system.

Political Philosophy

This course explores normative political theories & philosophical arguments, examining freedom, equality, justice, and rights, and applying them to contemporary issues such as liberal democracy, global justice, populism, nationalism, human enhancement, and the implications of determinism.

Programming in Python

This course introduces the fundamentals of programming and computational thinking using Python, covering data types, control structures, algorithms, functions, and debugging, through lectures and hands-on lab activities, designed for students with little or no prior programming experience.

Social and Cultural Psychology

This course introduces social and cultural psychology, examining how individuals perceive others, form attitudes, behave, and are influenced by social and cultural contexts, while exploring social cognition, the self, intergroup processes, human behaviour, and responses to societal challenges.

Smart Technology Lab: Fundamentals

This practicum introduces students to smart technology, covering sensors, actuators, microcontrollers, and visual dataflow programming. Through modular exercises and device design, students develop practical hardware and software skills, creativity, and problem- solving abilities applicable to real- world technology challenges.

Year 2 Courses

Advanced Programming

This advanced course builds on Programming in Python, focusing on disciplined software design, test-driven development, object- oriented programming, and core data structures and algorithms, equipping students to address complex problems in data science, AI, robotics, and related fields.

Algorithms and Data Structures

Building on Imperative Programming, this course covers fundamental data structures and algorithms including stacks, queues, linked lists, trees, and graphs, emphasising correct, efficient programming, documentation, and applications, through lectures, tutorials, exercises, and lab sessions.

Artificial Intelligence

This course introduces artificial intelligence, exploring intelligent agents that perceive and act to achieve goals. Students work in teams to design, test, and refine agents using PEAS, various architectures, and iterative development, culminating in a project report and critical evaluation of AI solutions.

Arts, Technology and Philosophy

This interdisciplinary course examines what remains of the human in an era of technological and biological entanglements, exploring human, machinic, and more-than- human agency, and how historical notions of human exceptionalism are challenged by technology, planetary crises, and life sciences.

Big Data - Data Science

This course introduces big data concepts and Python tools for data science, focusing on efficient algorithms and software to analyse large datasets. Students gain hands-on experience through practical sessions, assignments, and version-controlled tools to extract patterns and insights from data.

Clinical Psychology

This course introduces clinical psychology and psychopathology, focusing on disorders such as ADHD, autism, depression, anxiety, psychosis, and borderline personality disorder. Students explore cognitive and neural mechanisms, treatments, and societal issues through discussion and reflection.

Cognitive Psychology

This course introduces cognitive psychology, examining mental processes such as perception, attention, memory, and problem-solving, while exploring experimental techniques to infer how the mind works and considering the relevance and implications of cognitive research for everyday life.

Criminal Law

This course introduces core concepts of criminal law through a comparative approach (England, Germany, Netherlands), covering punishment, criminalization, mens rea, defences, and inchoate offences, with assessment through essay exams and group presentations on controversial legal issues.

Crosscultural Management

This course explores cross-cultural management, examining how cultural assumptions and prejudices influence behaviour in the workplace. Through theory, case studies, and discussion, students develop insights to navigate and manage cultural diversity effectively in professional settings.

Decision Making

This course explores decision-making through psychology, behavioural economics, philosophy, and social sciences, examining cognitive biases, social influence, emotion, and framing, while students apply concepts through workshops and small interventions to understand how people make choices.

Developmental Psychology

This course introduces human development from infancy to adulthood, examining physical, cognitive, emotional, and social changes, key theories, research, and how biological, psychological, and socio-cultural factors shape human growth.

Dystopias

This course explores dystopian literature, examining post-apocalyptic futures, totalitarianism, environmental collapse, poverty, and technological oppression. Students analyse fiction and non-fiction across genres, applying cultural theory to critically reflect on themes, messages, and societal relevance.

Ethical Dilemmas in the Sciences

This course examines ethical dilemmas arising from scientific innovation, focusing on human dignity, legal and moral rights, and cultural impact. Through case studies, students analyse issues such as abortion, trait selection in children, and medical testing on animals using science and philosophy.

Electronics and Signal Processing

This course introduces electric circuits and signal processing, covering resistors, capacitors, and inductors, and how circuits convey information. Students learn analysis, design, and practical applications through lectures, labs, and problem-solving, gaining skills relevant for AI and robotics.

Environmental Humanities

This course introduces the Environmental Humanities, exploring how human–nature relationships are understood across society and culture. It addresses environmental justice and socio-environmental challenges through geography, history, philosophy, and ethnography, and includes collaborations with artists and scientists using storytelling, mapping, and creative methods.

Freedom and Responsibility

This course explores free will, determinism, and moral responsibility. Students critically examine theories of freedom, evaluate their strengths, and consider implications for science, politics, law, and human accountability, including contemporary challenges from neuroscience and societal structures.

Genetics

This course introduces classical and population genetics, Mendelian inheritance, and evolution, examining how genetics shapes traits and human disorders. Students engage in lectures, online tutorials, article discussions, and a final project to develop critical thinking in Health and Life Sciences.

Global Corporate Strategy

This course introduces global corporate strategy through interactive seminars and case studies. Students explore why firms outperform others, strategic alignment with environments, and optimal strategies. Lectures, cases, and discussions develop critical thinking and practical application.

Growth, Institutions and Business

This course examines economic growth through the lens of path dependency, exploring how past choices influence future development. Students analyse growth drivers, including technology, factor substitution, institutions, culture, and geography, using historical and comparative perspectives to explain variation.

Human Immunology

This course explores the immune system, covering cellular and molecular mechanisms, innate and adaptive immunity, MHC/HLA, antigen recognition, immune tolerance, and memory. Students link theory to clinical relevance, critically analyse literature, and develop problem-solving and communication skills.

Human Physiology

This course introduces human physiology, examining how organs integrate to maintain homeostasis. Topics include cellular function, membranes, electrolyte balance, respiration, circulation, autonomic nervous system, kidney and gastrointestinal function, and the interactions supporting survival.

Intermediate Mathematics

This course builds on Mathematics for E&BE and Matrix Analysis, equipping students with tools for advanced economics. Topics include static and dynamic optimization, differential equations, and integration techniques, preparing students for Microeconomics, Macroeconomics, and applied problem- solving.

International Economics for E&EB

This course introduces international economics, covering trade theory, foreign direct investment, migration, offshoring, and government policy. It explores models such as Ricardo, Heckscher-Ohlin, Viner, and New Trade Theory, focusing on how trade creates welfare gains that are unevenly distributed and may require policy intervention.

International Law

This course introduces public international law, examining its principles, interaction with domestic law, and role in stabilising international relations and cooperation. Students analyse cases and themes through interactive lectures and practical sessions, gaining insight into theory and application.

International Politics

This course introduces contemporary international relations, focusing on the past 30 years, covering global issues like environment, warfare, and energy, as well as regional dynamics such as the Middle East. Students engage with theory and current affairs through interactive, preparatory class activities.

International Relations Theories (and Practice)

This course introduces International Relations, key theories such as realism, liberalism, constructivism, Marxism, feminism, and postcolonialism, and their application to case studies. Students analyse works of fiction, engage in debates, seminars, and complete a group presentation and digital exam.

Leadership in Culture

This course introduces leadership in the cultural sector, examining styles and challenges across organisations from museums to grassroots initiatives. Students analyse the societal role of culture, discuss issues with professionals, and complete assignments applying insights to leadership in practice.

Living Cell 2

Living Cell 2 builds on Living Cell 1, exploring molecular and cellular mechanisms underlying health and disease. Students study cells as the building blocks of life, macromolecules, and human disorders, while developing critical thinking and scientific reading through lectures, discussions, and journal clubs.

Machine Learning

This course introduces machine learning, combining statistics, computer science, and mathematics. Students study supervised methods like regression, decision trees, SVMs, and neural networks, as well as unsupervised methods including clustering and PCA, using Python and libraries such as Sci-kit Learn and TensorFlow.

Meaning and Truth in Language and Art

This course explores contemporary theories of meaning beyond human language, examining literature, gestures, pictures, emoji, diagrams, comics, film, and music. Students engage in lectures, seminars, homework, and individual research projects with one-on-one guidance and final presentations.

Medical Microbiology

This course covers bacteriology, virology, mycology, antibiotics, vaccination, microbiome, and STIs, including Safe Microbiological Technique (SMT) certification. Students engage in laboratory practicals and tasks addressing public health issues related to medical microbiology.

Models of Democracy

This course explores models of democracy, central values of liberty and equality, and tensions between them. Students study thinkers like Popper, Rawls, Habermas, and Sen, examine challenges such as populism, misinformation, AI, and democratic backsliding, and evaluate innovations like sortition and citizens' councils.

Music in Culture

This course introduces the cultural study of music and sound, exploring their effects on thought, feeling, and action, major debates in musicology, ethnomusicology, popular music studies, sound studies, and philosophy of music, through lectures, discussions, debates, and active student participation.

Organization Theory & Design

This course examines how organizations function and what makes them effective. It introduces organizational theories and contingency thinking, focusing on how structure and strategy depend on environment, technology, culture, and growth. Topics include internationalization, IT, power, conflict, decision-making, innovation, and organizational change.

Personality and Individual Differences

This course provides a broad introduction to personality psychology. Students explore definitions of personality, major perspectives (trait, biological, intrapsychic, cognitive, learning), and central themes in research, including intelligence, happiness, and personality disorders.

Policy and Principles of Private Law

This course introduces private law, covering contract, tort, and property law across multiple legal traditions. Students explore principles, doctrines, and real-world implications, including digitalisation, human rights, climate change, and social justice in contemporary contexts.

Political Economy

This course introduces political economy, studying how politics and economics interact. Students explore public choice, political institutions, sub-optimal policies, voting behaviour, fiscal bias, fake news, and the links between populism and economic outcomes.

Practical Life Science

This practical course trains students to work independently in a lab, building on Living Cell 1 and Biochemistry. Students learn to use standard equipment, perform, and analyse experiments, document results in lab journals, and communicate findings in reports and creative artefacts.

Principles of Entrepreneurship

This course explores entrepreneurship fundamentals, focusing on value creation, societal impact, and entrepreneurial thinking. Students engage as entrepreneurs, researchers, and citizens, applying concepts through business models, LEGO Serious Play, and group projects.

Public Finance

This course examines government intervention in markets to correct failures and promote fairness. Topics include public goods, externalities, taxation, debt, income redistribution, unemployment insurance, and designing policies for efficiency and equity

Year 3 Courses

Social Complexity and Networks

Understanding social complexity helps explain how individual actions aggregate into societal phenomena. This course covers networks, self-organization, turbulence, and unpredictability, with case studies and agent-based simulations illustrating complex social dynamics.

World Literature

This course explores literature from over 4000 years across cultures, centered on the theme of changing places—through travel, exile, migration, or colonisation. Texts include Gilgamesh, Odyssey, Aeneid, Monkey, Max Havelaar, Americanah, and others.

Advanced Logic

Students explore logics beyond classical systems, learning how different logics suit varied contexts like program verification or agent communication. Topics include induction, many-valued and modal logics, tableau proofs, soundness, completeness, and nonmonotonic reasoning.

Applied Machine Learning

This course is a hands-on ML project, from ideation to demo deployment. Students preprocess data, select features, tune models, and evaluate outcomes. Tools include Pandas, NumPy, scikit-learn, and simple deployment frameworks. Prior ML knowledge is assumed.

Business Models

Business Models invites students to rethink the role of business in today's world. Using Kate Raworth's Doughnut Economics framework, the course explores how businesses can create value while staying within social and planetary boundaries. Students will examine how business models can be designed to be not only profitable, but also regenerative, distributive, and socially responsible.

Clinical Neuropsychology

This course introduces neurobehavioral disorders and their neuropsychological consequences. Students learn to assess impairments, treatment approaches, and clinical presentations, while reflecting on theories, methods, lifestyle factors, and family impact in practice.

The Age of Human Rights

This course introduces international human rights, their historical development, and relevant institutions. Students critically explore human rights issues from multi- and interdisciplinary perspectives, applying knowledge through lectures, discussions, and a student-led conference.

Empirical Political Economy

This course builds on Political Economy and quantitative methods. Students choose a theme (e.g. inequality, ideology, voting) and conduct an empirical replication study using regression analysis. Activities include lectures, workshops, feedback, and final presentations.

Evidence-based Policy Analysis

This course explores evidence-based policy and its limits. We study experimental vs. econometric methods, frequentist vs. Bayesian statistics, and the role of theory in interpreting evidence. Students critically assess how evaluations shape policy and social outcomes.

European Law

This course introduces European Union law, focusing on its institutions, legal procedures, and foundational treaties. It examines how EU law is made and enforced, its impact on member states and individuals, and its role in protecting rights. Key topics include the internal market, free movement, competition, and the balance between EU and national law.

Existential Risks

This course examines existential risks such as supervolcanoes, asteroids, pandemics, climate change, nuclear and biological war, and AI. Students study science-based insights, assess which threats matter most, and explore interdisciplinary strategies for mitigation.

Quality of Life

This course explores quality of life through social sciences, philosophy, and economics. Students examine normative and practical definitions, analyse qualitative and quantitative measures, and learn to design and implement programs enhancing wellbeing in diverse social institutions.

Global Justice

This course examines global justice, exploring how theories of fairness, rights, and cosmopolitanism apply to poverty, inequality, migration, climate change, and health disparities. Students critically discuss ethical principles, propose solutions, and engage in seminar-based debates.

Growth and Development Economics

Why are some countries richer than others? This course explores the determinants of growth, inequality and poverty, applying theory and empirical methods. Topics include income measurement, structural change, government, resources, geography and culture.

Medical Technology

This course introduces core physical, biological and computational principles of medical technology, covering imaging, lasers, radiotherapy, digital health and gene therapy. It explores established methods and cutting-edge research, including an excursion to UMCG.

Myths we Live by: Narrative in Politics and Society

This course examines the power of narratives in politics and society, analysing how stories shape action and reinforce or challenge power. Students explore narrative structures, artistic media, myths, populism, migration, and European identity, with attention to emotional and cultural impact.

Dynamic Macroeconomics

This course explores dynamic macroeconomics, analysing how households, firms, and governments make intertemporal decisions on consumption, investment, and policy. Students apply mathematical models and empirical insights to assess economic conditions, policy impacts, and real-world challenges.

Microeconomics - Choice and Strategy

This course introduces fundamental microeconomic tools to analyse social phenomena, covering consumer and producer theory, market equilibrium, failures, uncertainty, and asymmetric information. Students apply theory to empirical studies, interpret results, and develop explanatory economic models.

Neurobiology

This course introduces physiology and behaviour in humans and animals, focusing on senses, brain, and nervous regulation. Students explore sensory processing, circadian rhythms, movement and reproduction, with practicals on heart function, brain anatomy and adaptation.

Oncology

This course examines the cellular and molecular basis of cancer, with emphasis on pathways driving tumour development and their use in diagnostics and therapy. It covers clinical oncology and features guest lectures on cancer stem cells, radiation and biophysics.

Philosophical Foundations of Psychology

This course explores the philosophical foundations of psychology, contrasting the substance and process approaches. Students examine their assumptions, apply meta-theoretical concepts such as dynamic systems and critical psychology, and link them to chosen phenomena.

Postcolonial Theory

This course introduces postcolonial studies from multidisciplinary perspectives, addressing colonialism, decolonisation, memory, and global power. It combines theory, guest lectures, and critical reflection on positionalities, while fostering a brave and mindful space.

Robotics

This course combines theory and practice in industrial robotics, with sessions at Philips Robotics Lab in Drachten. Topics include robot manipulators, UR programming, mobile robot control, PLCs, fieldbuses with MODBUS, IIoT using Node-Red, and state-machine design.

Science Communication

This course examines how scientists communicate research to the public via magazines, infographics, events, debates, exhibitions, and videos. Students explore oral, written, and visual communication, and practise these skills through assignments and practical exercises.

The City

This course explores cities as both built environments and socio-cultural spaces. Students examine contemporary urban challenges through interdisciplinary philosophically grounded approaches, using seminars, lectures, fieldwork, and readings to analyse urban life, politics, and culture.

Research and Methodology Elective Courses

Calculus 1

This course covers single-variable calculus, including limits, continuity, differentiation, integration, and differential equations. Applications span physics, ecology, economics, and medical sciences. The course also introduces complex numbers and exponential functions in the complex domain.

Calculus 2

Building on Calculus 1, this module extends key concepts - continuity, differentiability, and integration - to multivariable functions. Topics include spatial curves, partial and directional derivatives, tangent planes, extrema with and without constraints, multiple integrals, Jacobians, and vector field integration.

Computational Methods

This course teaches basic computational methods used in science, including error analysis, linear algebra, numerical integration, and optimisation, while introducing Python libraries and applying these skills to real-world problems in science, machine learning, and big data.

Interpretive Methods

This course explores the interpretation of texts across various media, including folk tales, speeches, historical documents, religious texts, and music, helping students develop nuanced interpretations while collaborating with the Noord Nederlands Orkest on Mahler's Eighth Symphony.

Mathematics

This first-year Research & Methodology course introduces mathematical concepts like finite mathematics, matrix algebra, and calculus, focusing on their applications in social and life sciences.

Qualitative Data Collection and Analysis

his course introduces students to qualitative research, teaching skills like interviewing, focus group moderation, and coding with Atlas.ti, culminating in a group project and an individual exam.

Statistics 1,2 and 3

Statistics 1 provides an introduction to statistical concepts, covering data collection, descriptive statistics, probability, and statistical inference. In Statistics 2, students explore relationships between variables, covering analysis of variance, regression (both continuous and categorical variables), nonparametric methods, and logistic regression, with an emphasis on estimation and inference. Statistics 3 deepens students' statistical knowledge, focusing on latent variable modelling (e.g., PCA, Factor Analysis), causal inference, and Bayesian Statistics, equipping students with tools to measure latent constructs and apply advanced regression techniques like panel data and limited dependent variable modeling.

Test Theory

This course covers key topics in test development and validation, including the history and applications of psychological tests, test administration, reliability, validity, factor analysis, and recent developments in test construction, with three assignments on test analysis.

Logic

This course introduces logic, covering both philosophical and formal aspects, including propositional and predicate logic, normal forms, and natural deduction. In the final part, students explore advanced topics such as modal logic, vagueness, and Gödelian incompleteness, presenting on a topic of their choice.

Visual and Arts- based Methods

This course introduces visual and arts-based research methods as forms of knowledge production, focusing on techniques, characteristics, and critical evaluation. Students will practice these methods, analyse results, and develop arguments to assess their use in various research settings.

Introduction to Critical Argumentation and Legal Reasoning

This introductory course equips first-year students with essential skills to analyse, construct, and critique arguments in legal and political contexts. It covers the basics of legal sources, policy documents, and agenda-setting. Students will explore persuasive techniques, political rhetoric, and the foundations of civic discourse, gaining practical tools valuable across disciplines.

Year 1

- Artivism
- Biochemistry
- Biopsychology
- Ethics
- Fundamentals of Law
- Human Anatomy
- International Business
- Introduction to Sociology
- Knowledge is Power
- Linear Algebra
- Living Cell 1
- Macro-Economics
- Micro-Economics
- Philosophy of Mind
- Policy Making in the EU
- Political Philosophy
- Programming in Python
- Social and Cultural Psychology
- Smart Technology Lab: Fundamentals
- Understanding Bias

Year 2

- Advanced Programming
- Algorithms and Data Structures
- Artificial Intelligence
- Arts, Technology and Philosophy
- Big Data - Data Science
- Clinical Psychology
- Cognitive Psychology
- Cultural Criticism
- Criminal Law
- Crosscultural Management
- Decision Making
- Developmental Psychology
- Dystopias
- Ethical Dilemmas in the Sciences
- Electronics and Signal Processing
- Environmental Humanities
- Freedom and Responsibility
- Genetics
- Global Corporate Strategy
- Growth, Institutions and Business
- Human Immunology
- Human Physiology
- Intermediate Mathematics
- International Economics for E&EB
- International Law
- International Politics
- International Relations Theories (and Practice)
- Leadership in Culture
- Living Cell 2
- Machine Learning
- Meaning and Truth in Language and Art
- Medical Microbiology
- Models of Democracy
- Music in Culture
- Organization Theory & Design
- Personality and Individual Differences
- Policy and Principles of Private Law
- Political Economy
- Practical Life Science
- Principles of Entrepreneurship
- Public Finance
- Social Complexity and Networks
- World Literature

Year 3

- Advanced Logic
- Applied Machine Learning
- Business Models
- Clinical Neuropsychology
- The Age of Human Rights
- European Law
- Empirical Political Economy
- Evidence-based Policy Analysis
- Existential Risks
- Quality of Life
- Global Justice
- Growth and Development Economics
- Medical Technology
- Dynamic Macroeconomics
- Microeconomics - Choice and Strategy
- Myths we Live by: Narrative in Politics and Society
- Neurobiology
- Oncology
- Philosophical Foundations of Psychology
- Postcolonial Theory
- Robotics
- Science Communication
- The City

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