Solutions for complex societal problems are increasingly sought through the application of scientific principles. At the same time, developments in the sciences impact society, some of which may lead to societal questions and concerns. An example is the new genomics technologies for disease diagnosis. On the one hand, it may improve care and prevention, while on the other hand, it raises ethical concerns related to violation of privacy, stigma and discrimination. Addressing such complex problems is complicated in itself. It calls for the integration of knowledge from several scientific disciplines and cooperation between a wide variety of actors in society – ranging from government, industry and societal organizations to patients and consumers.

The aim of the Master programme Management, Policy Analysis and Entrepreneurship in Health and Life Sciences (MPA) is to provide students with an academic attitude and skills in the field of interdisciplinary research on the interface of beta science and society aiming to formulate strategies to solve complex societal problems in the health and life sciences. The program provides a broadening of the knowledge and skills from a bachelor scientific background in disciplines such as science, technology and society studies, policy science, and management studies. In the MPA program, the following core competencies are developed:

- Analysis of complex societal issues related to the health and life sciences
- Formulation and implementation of strategies to deal with complex societal problems by way of interdisciplinary research.
- Effective cooperation and communication with researchers from scientific disciplines other than health and life sciences and with societal actors.

The MPA program comprises four specializations with the following objectives:

- **Health and Life Sciences-Based Policy**: This specialization equips the graduate with insight into theories and strategies to address societal issues through governmental policy at various levels. Special knowledge and understanding are obtained in the discipline of policy analysis. Various forms of ‘governance’ and interactive policy-making in particular are discussed. In addition, the student acquires skills in data collection methods: from various written and digital sources to interviews and focus group sessions. Ultimately, the student is independently able to facilitate group processes for interactive policy-making and to apply various analytical tools to structure the multidisciplinary data towards strategically designed recommendations.

- **Health and Life Sciences-Based Management and Entrepreneurship**: This specialization equips the graduate with insight into the management process of translating scientific knowledge to societally relevant innovations in the health and life sciences. Relevant theories on management, leadership, finance and law are discussed. The graduate is able to develop and critically assess business plans and has acquired skills in relevant scientific data collection methods and analytical tools.

- **International Public Health**: This graduate acquires a wide-ranging insight into current and future challenges in international public health, their main causes, and applied and potential interventions. S/he obtains special knowledge on relevant concepts from various disciplines (including epidemiology, policy science, anthropology, management studies, biomedical sciences and health sciences). S/he has the ability to conduct scientific research in the field of international public health, addressing challenges and critically assessing the results of research. S/he acquires knowledge of current theory and the key research questions in this field and insight into its scientific and social relevance.

- **Communication in the Health and Life Sciences**: Communication about science issues takes place not only between peers but also between scientists and ‘end users’ like the general public. This makes it a complex and dynamic field of research and practice; e.g. patient participation in health research, the use and effects of media metaphors and hypes, and public understanding of emergent technologies. The graduate with this specialization has a theoretical understanding of the complex problems that arise during such communication processes and has developed the skills necessary to behave professionally at this interface in an attempt to enhance communication outcomes between actors in science and society.

- **Community-based Health Technologies**: Community health faces a number of challenges (e.g. changing demographics, long-term care under pressure, and increased demands of staff and resources) and technology can contribute to sustainable solutions for these challenges. The Master’s graduate with a specialization in community-based health technologies has the ability to engage with community members with the aim to identify their health-related needs and concerns. Furthermore, the graduate is able to collaborate with industrial technicians in order to develop health technologies that address the identified needs of the community, and is able to reflect on the impact that these new technologies have on community health. Therefore, the Master’s graduate obtains knowledge and insights from innovation sciences, and specific technological knowledge from relevant disciplines (i.e. physics,
computer sciences and health sciences), as this enriches his/her understanding of the dynamics between front-line and emerging innovative technologies and community based health care.

**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 programme 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.
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<td>Vak: Health, Globalisation and Human Rights (Periode 2)</td>
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<td>Vak: International Comparative Analyses of Health Care Systems (Periode 3)</td>
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<td>Vak: Management of Innovative Technologies in Community Based Health Care (Periode 2)</td>
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<td>Vak: Managing Science and Technology in Society (Periode 1)</td>
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<td>Vak: Maternal and Child Health (Caput) (Ac. Jaar (september))</td>
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<td>Vak: Policy, Politics and Participation (Periode 2)</td>
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<td>Scientific Writing in English (AM_MPA) (Periode 4+5+6)</td>
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MSc MPA Compulsory Modules - all specialisations

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MSc MPA Internships: Please select at least one internship of your specialisation.

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MSc MPA Literature Thesis: Please select the thesis of your specialisation

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MSc MPA Bèta-oriented courses for which no permission of the Examination Board is required (choose 6 EC)

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MSc MPA, spec. Communication

Opleidingsdelen:

- verplichte cursussen 1e of 2e jaar (Com)
- tenminste 6 EC verplicht
verplichte cursussen 1e of 2e jaar (Com)

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tenminste 6 EC verplicht

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MSc MPA specialisation International Public Health

The specialisation International Public Health (IPH) has a special focus on public health from a global perspective. This orientation prepares students for a career at a university, ministry, non-governmental or international organisation.

Opleidingsdelen:

- Choose at least one of these course modules
- Restricted choice: 6 EC required

Choose at least one of these course modules

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Restricted choice: 6 EC required

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MSc MPA specialisation Health and Life Sciences Based Management and Entrepreneurship

The specialisation Health & Life science-based Management and Entrepreneurship prepares students for a career in a pharmaceutical company, e.g. as a Clinical Research Assistant and advisor, or to establish one's own business.

Opleidingsdelen:

- Compulsory modules - M&E spec.
- minimaal 1 kiezen

Compulsory modules - M&E spec.

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minimaal 1 kiezen

Vakken:
MSc MPA specialisation Health and Life Sciences Based Policy

This specialisation offers the opportunity to become an expert in the field of policy. Career opportunities are policy preparation at government and different public health organisations or as a scientific researcher at the university.

Opleidingsdelen:

- verplichte cursussen 1e of 2e jaar (Pol)
- tenminste 6 EC verplicht

verplichte cursussen 1e of 2e jaar (Pol)

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tenminste 6 EC verplicht

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Analysis of Governmental Policy

**Doel vak**
- To acquire critical knowledge regarding different policy models and theories;
- To master the correct use of central concepts in political and policy discourses;
- To create skills for the analysis of complex societal questions or dilemmas;
- To learn to integrate scientific expertise with laypersons' experience;
- To practice data collection and analysis;
- To learn to set up valid lines of argumentation from data to policy recommendations;
- To experience writing a policy advisory report;
- To improve communication skills during a group project;
- To improve skills in working effectively in a project team, through team building, team analysis and feedback.

**Inhoud vak**
Governmental policy affects millions of people and is thus object of intensive debate and target of strong societal forces, like political parties, media and interest groups. Being an advisor or policy maker requires a thorough understanding of the dynamics of policy making, as well as from the psychological side as from the more social structures and their influence on a deliberative democracy.

The course contains several lectures on theoretical concepts and models concerning policy analysis. Furthermore you will be challenged, under supervision, to apply and practice these concepts and models in the project assignment. From the very first day, you will be part of a project team of about ten students. You are confronted with a real policy problem from an external commissioning institution (e.g. a non-governmental organization, a Ministry, an advisory council). Within those 4 weeks you will collect data by literature review and interviews and conduct an interdisciplinary analysis on the basis of which you provide an advice. Specific attention is paid to working in a project team and team building. At the end of the course, you prepare an
advisory report. On the last day of the course you present the report to
the representative of the external institution who commissioned the
project. In that presentation your team will highlight the main results
of your analysis and defend the recommendations you propose.

Onderwijsvorm
Analysis of Governmental Policy is a parttime course of eight weeks (6
ECTS). Tuition methods include lectures, training workshops, and
self-study. Attendance to lectures and project meetings is compulsory. In
our experience, relying on self-study alone is insufficient to pass the exam.

Toetsvorm
Written multiple-choice exam (30%)
Personal performance in group meetings (20%)
Group products (50%): report (25%), presentation (25%)
All have to be passed successfully for the student to pass the course

Literatuur
Education (UK).

Aanbevolen voorkennis
The project integrates the research design made and lessons learned from
the first compulsory MPA course: Research Methods for Analyzing Complex
Problems

Doelgroep
Compulsory course within the Masterprogramme Management, Policy
Analysis and Entrepreneurship for the health and life sciences (MPA)
and the Societal differentiation of Health, Life and Natural Sciences
Masters programmes.

Intekenprocedure
Additional information about the schedule for work groups is available
in Canvas.

Overige informatie
The case is policy analysis and advice, but the exercised methods and
skills are equally applicable to strategic marketing advice or
evaluation studies. The teams will be coached by workgroup tutors.

Business Management in Health and Life Sciences

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<td>Coördinator</td>
<td>drs. A.M.G. Neevel</td>
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<tr>
<td>Examinator</td>
<td>prof. dr. H.J.H.M. Claassen</td>
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**Doel vak**
1. To acquire knowledge and understanding into theory of knowledge valorisation in health and life sciences
2. To acquire knowledge and insight in how to organise, protect and finance a business in health and life sciences
3. To acquire knowledge and understanding into the pharmaceutical industry’s business model and business processes
4. To acquire knowledge and understanding into the challenges that face the pharmaceutical industry
5. To apply newly acquired knowledge and understanding by solving case examples
6. To apply newly acquired knowledge and understanding in writing a business plan
7. To reflect on and critically evaluate the role of the pharmaceutical industry in the healthcare system
8. To learn to autonomously write a business plan

**Inhoud vak**
As a result of external factors (for example ageing of the population and technological advancement, leading to increased healthcare costs), it is being stated that our healthcare system is under pressure. As a central stakeholder in this healthcare system, the pharmaceutical industry is facing significant challenges the coming years. More than ever, the pharmaceutical industry is challenged to survive. Business Management in the Health and Life Sciences focuses on gaining insight in the pharmaceutical industry, its business model, business processes, challenges, as well as strategies and actions to overcome these challenges.

During the course, prof.dr. Eric Claassen (http://www.falw.vu.nl/en/research/athena-institute/staff/claassen.asp) together with highly experienced guest lecturers from the field will teach theoretical and practical knowledge during lectures and seminars. Tangible subjects that will be discussed during the lectures and seminars include the pharmaceutical industry’s business model and business processes, intellectual property, portfolio management, finance, risk capital, grants and subsidies, team building and people management, different legal entities, fiscal and legal aspects when starting a new company, SWOT analysis in the life sciences and clinical trials.

The newly acquired knowledge is tested via an assignment (during which students will write either a personal career business plan or a ‘real’ business plan) (40% of the total grade), a written exam (40% of the total grade), and a computer seminars (20% of the final grade).

**Onderwijsvorm**
Lectures: +-50 h
Computer seminars: 7,5 h
Work on assignment and self-study: +- 40h

**Toetsvorm**
Written exam: 40%
Personal Business Plan: 40%
Computer seminar: 20%
All parts have to be passed successfully.
Literatuur

Doelgroep
Optional course for Master students Management, Policy Analysis and Entrepreneurship in Health and Life Sciences (MPA), Societal differentiation of the Health, Life & Natural Sciences.

Overige informatie
Guest lecturers, companies/organisations:
• Robert Al, TU Eindhoven
• Bart van Wezenbeek, Vereenigde
• Bart Bergstein, Forbion Capital partners
• Michael Mellink & Majorie Soeter, Odgers Berndtson
• Marg Janse, Innovatief LerenLeren BV
• Yp Kroon & Peter van Dongen, NL Octrooicentrum
• Jeroen Dekker & Rosalie Witjas-Paalberends, Price Waterhouse Coopers
• Arjan Bisseling, AsjesBisseling Belastingadviseurs
• Henk Viëtor, FFund

Clinical Development and Clinical Trials

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Doel vak
- To gain knowledge and insight into the function clinical trials in today's healthcare system
- To gain knowledge and insight into the design of clinical trials
- To gain knowledge and insight into the conduct of clinical trials, including the applying rules and regulations (including ICH-GCP)
- To gain knowledge and insight into and critically reflect on the roles, tasks and responsibilities of the stakeholders involved in clinical trials
- To gain insight into challenges in clinical development as well as in strategies to deal with these challenges
- To learn where and how to look up rules and regulations

Inhoud vak
In today's healthcare system, clinical trials have gained the status of golden standard to test the safety and efficacy of newly developed drugs. For new drugs to enter the market, clinical trials must be passed.
and as a consequence, clinical trial outcomes have major effects on our healthcare system. While our healthcare system currently is under pressure to remain affordable and available to all, at the same time, clinical trial regulations are increasingly tightened and the prominence of clinical trials in our healthcare system is being criticized. For that matter, it is of great importance to learn about and reflect on the role of clinical trials in today’s healthcare system.

The Clinical Development & Clinical Trials course will elaborate on the function, design and conduct of clinical trials, as well as the relevant stakeholders involved. The course consists of a theoretical part and an important practical part (e.g. gaining knowledge on clinical trial regulations). Classes include for example: ‘Life Cycle of a Clinical Trial’, ‘Clinical Trial Methodology’, ‘ICH-GCP Principles’, ‘The Ethics Committee’, ‘Safety Considerations in Clinical Trials’, ‘Quality Control & Quality Assurance’, ‘Compliance, Misconduct & Fraud’.

The gained knowledge and skills will be evaluated by means of a written exam at the end of the course.

**Onderwijsvorm**
Lectures: +-35 h  
Self study: +- 40 h  

**Toetsvorm**
Written exam: 100%

**Literatuur**
(Additional reading will be provided via Canvas and will serve as background reading for the lectures).

**Doelgroep**
Optional course for Master students Management, Policy Analysis and Entrepreneurship in Health and Life Sciences (MPA), Societal differentiation of the Health, Life & Natural Sciences.

**Overige informatie**
Guest lecturers, organisations/companies:  
- Eric Klaver, FourPlus Clinical

**Communication, Organization and Management**

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**Doel vak**
To get acquainted with theories on organisational behaviour
To obtain a deeper understanding of communication from the perspective of sharing and influencing results
To acquire knowledge on organisational structures and designs
To get acquainted with important theories on organisational transitions and change management
To acquire insight into different management practices in the health and life sciences sector
To gain insight in leadership and interpersonal behaviour
To obtain insight in methods for motivation and conflict management
To improve communication skills
To practise analytical and advisory skills

**Inhoud vak**
Organisations in the health and life science sector are changing fast, a phenomenon driven by newly emerging technologies and increasing societal complexity. A growing number of students with a beta degree will hold professional and managerial functions in these organisations. During this course students will learn how to be effective performers within these environments, both individually and in teams. This requires an understanding of the macro aspects of organisational behaviour, including designing organisations, managerial skills and ways of strategic thinking. Several speakers conduct lecturers on aspects as motivation, managing interpersonal behaviour, leadership, communication and developing and changing organisations. The speakers explain theories from literature and relate them to their practical experiences. Also, practical cases of health care companies will be analysed and discussed, resulting in advisory reports for management. With the other students you discuss your experiences and a coach helps you relate the experiences to theory.

**Onderwijsvorm**
Lectures: approximately 22 hours
Response lectures: 4 hours
Training workshops 16 hours
Self-study and writing project assignment: remaining hours.

**Toetsvorm**
Written exam (60%) and assignment (40%). Grades of both parts must at least be 6 or higher.

**Literatuur**
To be announced on Canvas

**Doelgroep**
Compulsory course within the Master programme Management, Policy Analysis and Entrepreneurship for the Health and Life Sciences (MPA) and the Societal differentiation of Health, Life and Natural Sciences Masters programmes

**Overige informatie**
Attendance to training/discussions is indispensable

Lecturers:
**Doel vak**

The endpoint of this course is that the student

- Has acquired in-depth theoretical and practical knowledge in relation to health intervention strategies for infectious diseases.
- Has acquired insights in various infectious diseases and characteristics in relation to containment strategies.
- Has acquired insight into the role of international institutions, such as the WHO, governmental advisory bodies, relevant professionals, executing institutions, NGOs and communities in designing and carrying out health interventions.
- Understands which barriers are important when implementing containment strategies of infectious diseases, with a focus on vaccination programs.
- Has acquired insight in theoretical concepts and methods to interpret results, evaluations and the effectiveness of programs.
- Has learned and practiced interdisciplinary methods and techniques to plan health interventions at community level in an interactive way.

**Inhoud vak**

This course covers developments in intervention strategies used to address health needs in a global context. Containment strategies of infectious diseases, in particular vaccination programmes, alert systems and intervention strategies, provide specific areas of attention. The containment strategies to be discussed include programmes for known infections (including vaccination strategies and in case of absence of a vaccine, diagnosis and treatment strategies) and emerging infections (including isolation, prevention and communication strategies).

The student learns how to analyze bottlenecks and opportunities of the various strategies, how to interpret the results and to evaluate the implementation of programmes.

In addition, the student will take part in a group assignment on how to design containment strategies at community level in an interactive way, for e.g. tuberculosis, polio, rabies, malaria, HIV/AIDS, Ebola, etc. A presentation and writing of an essay will be part of the group assignment.
Onderwijsvorm
Lectures, group assignment, presentation, essay, self-study. Basic background knowledge will be provided by VU lecturers, whereas relevant guest lecturers will present practical field examples. Group assignment attendance is compulsory. Contact hours: lectures 34 hrs, group work 8 hrs. Self-study approx. 80 hrs.

Toetsvorm
Individual exam (60%) and group assignment presentation and essay (40%). Both parts must at least be sufficient (6 or higher)

Literatuur

Slide sets of lectures as made available on Canvas. Lecturers may make further readings available on Canvas.

Vereiste voorkennis
Basic knowledge about the pathogenesis of infectious diseases, microbiology and immunology

Aanbevolen voorkennis
Minor course AB_1046 "Infectious Diseases and Vaccine Development"

Doelgroep
Compulsory course within the Master differentiation International Public Health; optional course for students in other differentiations of the Masters Health Sciences, Biomedical Sciences, and Management, Policy Analysis and Entrepreneurship in Health and Life Sciences. Students from other backgrounds, please contact our secretariat for further information at secretariaat.athena@vu.nl

Intekenprocedure
Enrollment through Canvas.

Overige informatie
VU lecturers:
Prof. dr. Han van den Bosch
Prof. dr. Paul Klatser
Dr. Dirk Essink
Dr Bernard Ganter

Guest lecturers:
Dr. Jim van Steenbergen (RIVM/LUMC)
Dr. Helma Ruijs (RIVM)
Dr Frank Cobelens (KNCV)
Dr. Constance Schultz (AIGHD/AMC)
Prof. dr. Maarten Postma (RUG)
Dr. Kitty Maassen (RIVM)
Dr. Koert Ritmeijer (MSF)
Prof. dr. Robert Sauerwein (UMC Nijmegen)
Prof. dr. Cees Hamelink (VU)
Prof. dr. Guus Rimmelzwaan (EMC Rotterdam)
Dr. Hans Zaaijer (Sanguin)
Prof. dr. Christina Vandenbroucke (VUMC)Minor course AB_1046 "Infectious Diseases and Vaccine Development"
Disability and Development

Doel vak
- To define the concept of disability and development
- To explain the complexities related to disability and development (e.g. relation to poverty, diversity, identity, disability paradox)
- To explain the issues and barriers faced by people with disabilities (e.g. sexuality)
- To explain the importance of human rights in relation to disability and the UN Convention for the Rights of Persons with Disabilities
- To explain relevant models and frameworks related to disability (e.g. medical model, social model, ICF model, ecological system theory, twin-track approach, stigma).
- To explain issues related to disability research (including participatory and inclusive approaches) and practice (including community-based rehabilitation)
- To apply research skills during the problem-based learning sessions and group assignment (participating in scientific discussions, formulating of research objectives, literature research, abstracting, summarizing and giving feedback on findings, drawing conclusions)

Inhoud vak
The Disability and Development (D&D) course focuses on a broad range of issues related to disability and rehabilitation in the context of development. This means that the focus is on people with disabilities in low and middle-income countries. Disability affects an estimated 1 billion people worldwide, the majority of whom live in low and middle-income countries. The large majority are poor and have no access to rehabilitation services; neither are facilities in place to allow them to be included in the mainstream of society.

To date, very few services and programmes are available to address these needs. It is expected that there will be a substantial increase in demand for training of a large variety of professionals (e.g. researchers, managers, architects, lawyers, health professionals) with formal training and qualifications in the field of disability-inclusive development. The course will cover essential knowledge and skills in this subject.

The course programme will include the following subjects:
- Disability models and stereotypes
- Frequencies and distribution of disability
- Experience of having a disability
• ICF conceptual framework,
• Disability rights, including the UN Convention on the Rights of Persons with Disabilities,
• Culture and disability,
• Determinants of disability, including stigma and discrimination, poverty, gender and HIV/AIDS,
• Disability-relevant research methods, including examples of participatory methods,
• An introduction to community-based rehabilitation and disability inclusive development.

Onderwijsvorm
Problem-based learning supported by lectures and an article writing assignment.
• Lectures: 24 hours
• Tutorial groups: 24 hours
• Optional event: 4 hours
• Self-study: remaining hours

Toetsvorm
• Individual written examination (60%)
• Group assignment (30%)
• Participation in the tutorial group work (10%)

For all parts a pass grade (> 5.5) needs to be obtained in order to receive a final mark.

Literatuur
See Canvas for suggested readings

Vereiste voorkennis
Bachelor-level education; any subject

Aanbevolen voorkennis
The Disability & Development module is an optional course for Master students Management, Policy Analysis and Entrepreneurship in Health and Life Sciences (MPA), International Public Health and Biomedical Sciences; external students from low and middle-income countries are strongly encouraged to apply. We encourage the participation of students with disabilities, especially from low and middle-income countries.

Doelgroep
The Disability & Development module is an optional course for Master students Management, Policy Analysis and Entrepreneurship in Health and Life Sciences (MPA), International Public Health and Biomedical Sciences; external students from low and middle-income countries are strongly encouraged to apply. We encourage the participation of students with disabilities, especially from low and middle-income countries.

Overige informatie
For more information contact Dr. Ruth Peters (r.m.h.peters@vu.nl)

Epidemiology

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Doel vak
To be able to describe the key characteristics, strengths and weaknesses of traditional epidemiological study designs and select an appropriate study design for a given research question and context;
To be able to understand, calculate, and apply measures of occurrence and association;
To be able to understand and assess possible bias and effect modification;
To be able to understand and apply principles of accuracy in epidemiology;
To gain an understanding of the principles of screening and calculate related measures;
To be able to perform bio statistical analyses with Epi Info and interpret, describe, and present the outcomes.

Inhoud vak
The course consists of a theoretical, contextual, and practical component. The theoretical component is divided into two parts: the first part will focus on methodology (e.g. study-designs and bias), whereas the second part will emphasize applying statistical methods commonly used in epidemiology. You will primarily learn how to apply and interpret these methods in an epidemiological setting. We will focus less on the mathematical background (hence, we refer to this as ‘applied biostatistics’). The contextual component will focus on past and current epidemiological developments, for instance the start of the HIV/AIDS pandemic. Lastly, the practical component will focus on applying all your new skills.

Onderwijsvorm
- Lectures (14 hours)
- Work groups (12 hours)
- Computer practicum (8 hours)
- BPO assignment (8 hours)
- Self-study (remaining time)

Toetsvorm
- Exam (100%)
- Assignment (insufficient/ sufficient)
Both elements need to be sufficient.

Literatuur
Available on Canvas

Doelgroep
This course is solely intended for students without a background in epidemiology (i.e. students who attended and completed another bachelor or master course in methodology and applied biostatistics, epidemiology and biostatistics, or similar, are strongly advised not to enroll in this course).
**Intekenprocedure**

n/a

**Overige informatie**

For more information contact Dr. Ruth Peters (r.m.h.peters@vu.nl)

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**Ethics in Life Sciences**

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<tr>
<td>Coördinator</td>
<td>P. Klaassen MA</td>
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<td>Examinator</td>
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<tr>
<td>Docent(en)</td>
<td>dr. J.F.H. Kupper, P. Klaassen MA, A.R. Gilmoor</td>
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**Doel vak**
To provide a toolbox of ethical instruments to analyze properly moral problems related (to one's own) research in the life sciences and beyond
- To acquire conceptual knowledge of the central concepts in applied philosophy and professional ethics
- To be able to execute an ethical reflection on issues related to one owns life science specialization and to open it for an impartial and constructive discussion
- To conduct, as a team based project, a moral dialogue
- To acquire the necessary skills to handle ethical issues in an accountable manner, as a professional academic beyond one's own inclinations and prejudgments
- To show a respectful and accountable attitude in dealing with group dynamics during the work groups and project.

**Inhoud vak**
Researchers in life sciences generate the knowledge that builds the future of our society. Therefore, professional academics should be accountable for their decisions, experimental designs and presentation of results. In this short course, the principles of justification will be illustrated with cases of technology ethics and medical ethics. The way an ethical review committee on animal research works, is simulated by a role play exercise on an actual research protocol. Finally, as a group training project, an ethical dialogue is prepared and executed in confrontation with another team.

**Onderwijsvorm**
Ethics in the Life Sciences is a fulltime course of four weeks (3 ECTS).
The total study time is 80 hours.
The different elements have the following study time:
- Lectures: 13 hours
- Work groups: 17 hours
- Group assignment: 24 hours
- Exam: 2 hour
• Moral dialogue: 4 hours
• Self working (reading in the first week): 20 hours
Please note that attendance to the work group meetings is compulsory. Attendance to the lectures is highly recommended. In our experience, relying on self-study alone is insufficient to apply the theory of the lectures in the assignments of the workgroups, and to pass the exam.

Toetsvorm
• Degree of intellectual participation in the workgroups (10%)  
• exam (50%)  
• written and verbal execution of the ethical dialogue (40%)
All three elements have to be passed

Literatuur
Available on Canvas

Vereiste voorkennis
Bsc Biology, Biomedical Sciences, Psychology with profile Biological Psychology or Neuropsychology

Doelgroep
Compulsory course in all FALW Master programmes, except Health Sciences and Neuro Sciences

Overige informatie
Lectures in English, Most of the work groups are in Dutch. Non Dutch speaking students will be placed in English work groups. All presentations and plenary discussions in English.
In order to maximize the experience of differences in values and preferences, and to increase meaningful ethical inquiry we will place you randomly in the workgroups. Placement will be communicated after the introduction lecture.

Finance for Growth in Health and Life Sciences

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Doel vak
To acquire theoretical insight and practical experience in valuating and financing small and medium sized companies for growth with a special emphasis on specific issues in the Health sector and Life Sciences industry.
The learning objectives of this course are:
- To read, interpret and prepare financial statements
- To assess investment opportunities based on net present value calculations
- To explain the differential nature of financial aspects and investment behavior for the pharmaceutical industry
- To apply real option theory to evaluate or prepare investment opportunities
- To integrate financial arguments in the shaping or assessment of investment opportunities in the pharmaceutical industry
- To apply capital asset pricing to calculate investment risk & return in relation to your own financing or investment needs.
- To determine when to use which (non-)dilutive funding instrument based on financial implications and growth phase

Inhoud vak
Increasingly, policy makers, managers, entrepreneurs and students will be confronted with a corporate way of thinking in Health and Life Sciences organisations. To function in such an environment it is critical to have detailed and in-depth knowledge of financing moieties and possibilities. Hand in hand with making proper evaluations and informed choices on when to use which financing instruments the valuation of the company or the underlying IP is essential. In a real-life modelling computer lab this course will practice with determining and calculating risk adjusted valuation as a basis for financing.

Topics that will be dealt with in detail include:
- Preparing and interpreting a firm’s financial statement: the balance sheet, P&L (profit and loss) statement and cashflow overview
- Time value of money and interest rates
- Risk adjustments and discounted cash flow analysis (DCF)
- Investment risk & return
- Valuating projects and enterprises
- IP and firms
- Techniques in financing
- The pharmaceautical development value chain
- A practical guide to over 24 ways to fund a start-up or growing firm.

Onderwijsvorm
Lectures, computer modelling lab and assignment, working groups, self study.

Toetsvorm
Written exam and assessment of the Excel valuation model. Both parts need to be passed.

Literatuur
To be announced on Canvas

Vereiste voorkennis
Prior knowledge: successful completion of the course Business management in Health and Life Science and Social Entrepreneurship in Health and Life Sciences or practical experience in the field is strongly advised.

Doelgroep
Optional course for Master students Management, Policy Analysis and Entrepreneurship in Health and Life Sciences (MPA). PhD’s and post graduates, staff of University or knowledge institutes. Policy makers within governmental institutes that need to thoroughly evaluate investment propositions. Entrepreneurs in innovative companies within the Health and Life Sciences domain that aim to develop a clear investment proposition.
Health, Globalisation and Human Rights

**Doel vak**
The student;

- Is able to describe, understand and apply human rights concepts in a global context
- Develops a deeper understanding and a critical attitude towards scientific literature in the field of health, globalization and human rights in order to formulate soundly argued positions
- Is able to create his/her own vision with regard to the socio-cultural dimensions of human rights values in relation to public health
- Is able to apply methods of human rights assessment in relation to innovations in health care
- Demonstrates the ability to write and present according to academic standards

**Inhoud vak**
This course focuses on the human rights issues that are raised around the globe in connection with public health concerns. The course introduces the students to the effects of globalization on health issues, to the relevant UN human rights instruments on health and to the mechanisms to promote and protect these rights. Attention is given to a wide range of human rights topics in which health and well being play a crucial role. Examples are situations of armed conflict, reproductive rights, migration and refugee issues and children's rights. Within the context of current globalisation processes the importance of local cultural insights into the human rights & public health interaction will be discussed. During the course students will prepare and participate in a simulation on a human rights assessment of innovations in health technology and discuss relevant scientific literature in study groups. In the exam students will show their creative problem-solving skills applying them to human rights dilemmas in public health.

**Onderwijsvorm**
Contact hours

Lectures: 33 hours
Work groups: 12 hours
Group project, simulation and exam: 11 hours

Self study and preparing: remaining hours
**Toetsvorm**
Group project (10%), Simulation (20%), exam (70%). All parts need to be passed (6.0)

**Literatuur**
To be announced at the start of the first work group/lecture and via Canvas for group project.

**Doelgroep**
Optional course for students in all specializations of the Masters Health Sciences, Biomedical Sciences and Management, Policy Analysis and Entrepreneurship in the Health and Life Sciences.

**Overige informatie**
(Guest) Lectures and guest organisations (under reservation):
Cees Hamelink
Christine Dedding (Children and rights)
Fiona Budge (Culture and Health)
Bert Keizer (Elderly Rights)
Els Mons (Rights and disabled persons)
Women on Waves
Doctors without Borders
And more to be announced.

For more information contact Anna van Luijn (a.van.luijn@vu.nl)

**Innovation Behavior and Economy**

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**Doel vak**
Innovation, Behavior and Economy (IBE) gives you the theory, tools and practical experience to view and analyse health care as a complex, adaptive system. You will understand better how individuals and organisations react to changes and interventions.
You will learn and apply recent system theories to find out why the health care system works as it does: the effects of privatization, survival mechanisms and the "abnormalities" in the health care system.
You learn and experience how individual behavior leads to emergent system effects, and also why hidden barriers obstruct innovation.
You'll practice and integrate what you've learned in a field work exercise and by studying health care cases. And you'll experience, in the form of gaming/simulations, why you (too!) make irrational decisions.

Learning objectives:
Inhoud vak
IBE’s lectures, exercises, field work and simulations cover topics such as:

* The properties and general laws of complex adaptive systems and the mechanisms that determine survival, innovation and cooperation.
* The relation between ‘irrational’ behavior and emergent system effects: why students and other actors react in different and unexpected ways, against the assumptions of classical economy.
* Innovation as an on-going, chaotic and competitive process that causes unexpected emergent effects: how should companies and policy makers deal with this?
* Why network models of systems give insight in social structures and predict how innovations (and diseases!) spread.
* Innovations need a ‘changeable’ environment: learn how to initiate and manage health care improvement projects “at the edge of chaos”. If you consider to become a policy maker: learn how to make better policies, save time and money and recognize ‘perverse incentives’.
* Companies that understand how the system works use smart strategies for their innovations. New business models, using the experiences of patients and smart innovation models can be effective to support and spread innovations. But: fixed strategies are dangerous, even if they’re perfect…
* Delivering affordable health to the global population is a real challenge. Copying ‘Western’ systems in developing countries doesn’t work. The World Health Organisation applies a complex system approach for its activities.

Onderwijsvorm
IBE is a full time course of two weeks (3 ECTS).
Total study is 80 hours.
Forms of tuition: lectures, self-study (MOOC, cases and literature), group exercises, gaming/simulation, presentations/discussions.

Study general CAS theory: 10 hours
Lectures (H): 10 hours (contact hours: 10)
Field work (pro): 4 hours
Gaming / simulation (pra): 6 hours (contact hours: 6)
Group exercise (pro): 18 hours (contact hours: 2)
Study articles and cases: 6 hours
Presentation/ innovation market (pro): 8 hours (contact hours: 4)
Study for exam: 16 hours
Exam: 2 hours
Toetsvorm
* Exam (T)(70%)
* Field work group exercise (V) (report; pass/fail)
* Case study group exercise (O)(30% of which report (V) 20% and presentation (Pres) 10%).

All three parts should be sufficient/passed - no compensation possible.
In case of not passing the exam, one resit opportunity is offered.
For an insufficient exercise a substitute assignment can be given.

Literatuur
No text book needed.

Articles and links to supportive educational materials will be available two weeks before the course starts.

Doelgroep
You're a master student (MPA, innovation sciences, business, health care, health economy, artificial intelligence,...)
You have an interest in the interfaces between innovation, economy and behavior.
You're eager to understand how "things" work at the system level of health care.
You like to have different, even headstrong perspectives to look at the health care system.

Overige informatie
Course coordinator / examinator:
Dr. Th.P. Groen (FALW / Athena Institute; t.p.groen@vu.nl)

International Comparative Analyses of Health Care Systems

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Doel vak
• To understand and recognize the different components of a health system and different models of health system organization using various frameworks for health system analysis
• To understand and analyze outcomes of health systems with respect to equity, fair financial contribution and health status
• To understand the complex adaptive nature of health systems and its constitution
• To understand different methods in analyzing and comparing health
systems: health system performance assessment (benchmarking), case study analysis, cost effectiveness analysis

• To understand the underlying reasons for health system reform and to recognize different health care reform strategies;
• To understand cases study methodology regarding comparison of components of health systems
• To apply the acquired knowledge in the context of;
• To design, carry out and reflect on a (comparative) analysis of developing, transitional and developed countries, making use of the framework for comparative analysis;
• To be able to link the characteristics of policy recommendations, strategies on health system reform and public opinions on certain aspects of care to the specific determinants of the country/region at hand.
• To give a well structured and academically solid lecture on the comparison of countries;
• To write a clearly structured and academically solid paper on the comparative analysis you have carried out;

Inhoud vak
Given the fact that health systems worldwide are confronted with demographical and epidemiological changes, health systems are currently experiencing a period in which they have to re-assess their set-up, framework and goals. In this course you will obtain an overview of the complex nature of health systems and its different components, both with respect to conceptual components (service delivery, resource creation, stewardship, financing) and content components (primary care, mental health care, etc), and you will acquire skills to analyze and compare these components. In various lectures, both the quantitative aspects, and the critique there-upon, and the qualitative aspects of health system comparison is discussed. Furthermore, you will gain insight in the complexity and culturally determined nature of health system design and health system reform, through a series of lectures form VU-lecturers and experts from a variety of institutions such as the Royal Tropical Institute and the Nivel. Through two assignments, you learn and reflect on the topics that are discussed throughout the course. First, you will critically review a comparative analysis report on a specific aspect of health care in Europe, and present this in a lecture. Second, you will set up your own comparative analysis between two selected countries on a specific health care theme. In this case, you are invited to look critically at your own analysis process. You will report on you findings by means of a report and via a poster presentation. In both assignments you will have regular feedback sessions with health researchers in small groups.

Onderwijsvorm
‘International Comparative Analyses of Health Care Systems’ is a fulltime course of four weeks (6 ECTS). The total study time is 160 hours. Tuition methods include lectures, training workshops, and self-study. The different elements have the following study time:
- lectures 22 hours
- assignment sessions 28 hours
- pass/fail test 2 hours
- (project) self study remaining hours

Attendance to the assignment sessions is compulsory
**Toetsvorm**
Your are assessed on the basis of two comparative case study assignments. Both assignments need to be passed (higher then 5.5).
- Assignment 1: 40%
- Assignment 2: 60%
In addition a brief pass/fail test is given which needs a pass but is not graded, to check lecture attendance.

**Literatuur**
A selection of literature will be made on the basis of lectures and state of the art research. (selection of last years literature)


**Methods: Benchmarking**

  - Message from the director
  - Chapters 1 and 2
  - Statistical Annex

  - Chapters 1, 2, 3 and 10

  - Executive summary
  - Chapter 1
  - Chapter 6

**Methods: case study**

  - Chapters 1 and 2

**Health systems**


- Hsiao (2003). What is a health system and why should we care

  - Chapter 15


- Building the field of health systems and policy research
  - Framing the questions
Aanbevolen voorkennis
It is recommended that students have knowledge on public policy in the context of healthcare.

Doelgroep
Compulsory course within the Master specialization International Public Health, optional course within the Master specialization Infectious Diseases (master programme Biomedical Sciences). In any other circumstances admission should be requested from the course coordinator.

Overige informatie
Guest lecturers:
dr. Rob Baltussen, health economics at (UMCG)
Dr. Michael van den Berg (RIVM)
Barend Gerretsen (KIT)
Prof. dr. Wienke Boerma (NIVEL)

Internship I MPA specialization Communication

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Doel vak
The internship is a compulsory part of the Master’s programme. The aims of the internship are:

• Learn to independently apply and expand your practical science communication skills in one particular area of the field (writing, multi-media, facilitation, policy and strategy development, content design, etc.).
• Critical self-assessment and reflection on acquired science communication competencies in the field.
• Conduct scientific research independently: assess scientific information, design a research project, apply scientific methods, collect data, report and discuss findings.
• Present and discuss about internship and research outcomes.
• Learn to cooperate with researchers and practitioners of various disciplines.
• Gain an impression of a potential future field of career.
Inhoud vak
When you are enrolled in the VU Science Communication specialization or the UvA Major Science Communication you need to conduct one internship (30 ECTS, 5 months). MPA students that choose the Science Communication specialization also need to do at least one internship (30 ECTS, 5 months) in the Science Communication field. The internship has two possible formats: the full Research Internship and the Reflective Practice Placement (RPP). The complete and up-to-date information about the internship can be found in the SC internship guide line on Canvas (science communication community).

Onderwijsvorm
Work placement, under supervision of VU-staff.

Toetsvorm
Within six weeks after the start of the internship a Go/No Go evaluation is made by the VU supervisor. The aim of this interim evaluation is to decide whether the project and the student both have enough potential to continue (Go) or not (No Go). This evaluation is based on:
• Written material by the student, including a final research proposal and either the Introduction or Methods section of the article or both.
• Attitude of the student and execution of the project during the initial stage.

The final assessment of the internship is undertaken by the VU-supervisor and the second assessor.
In the final assessment, the VU supervisor assesses four different aspects of the internship:
• the attitude of the student
• the execution of the reflective pratice placement
• the final report/article
• the oral presentation
The second assessor provides an assessment of the final report only.

Assessment: Report (55%), Oral presentation (15%), Execution (30%) and Attitude (Pass/fail).
Only if marks for each item given by the VU-supervisor and the second assessor are 6 or higher and the attitude is a ‘pass’, the internship is regarded as sufficient. The final grade is calculated from the marks given by both assessors and, together with other administrative details, is summarized in the final assessment form, done by the master’s coordinator.

Internship I MPA Specialization International Public Health

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Doel vak
The aim of the first internship is to apply the competences acquired during the previous courses in a research project in order to ground the knowledge, attitudes and skills of interdisciplinary research. More specifically, the aims of the internships are:
• The student conducts scientific research under supervision;
• The student is able to find scientific information and to evaluate this for the benefit of his or her own research question under supervision;
• The student is able to apply scientific methods and knowledge, to answer research questions and to generate evidence-based knowledge under supervision;
• The student is able to formulate a research question, to choose, to implement and to evaluate the (appropriate) research method, and to phrase the obtained results in report under supervision;
• The student learns to cooperate with researchers of various disciplines;
• The student is able to orally present the research results and to discuss the findings;
• The student obtains a good impression of a potential future field of career.

Inhoud vak
The internship is a compulsory part of the Master MPA. The duration of the internship is 5 months (27 EC). An internship placement must provide the student with the opportunity to learn how to conduct research under supervision. The onsite supervisor of the internship is linked to an academic or research institution.

Internships can be conducted at various locations such as the Ministry of Health, Welfare and Sports, the Public Health Inspectorate, the Health Council, medical organizations such as the municipality health service (GGD), consultancies, the (pharmaceutical) industry and several research institutes, such as universities or e.g. the National Institute for Public Health and the Environment (RIVM).

An internship typically has three phases:
• In the first phase, you write an extended research proposal consisting of an introduction, background, theoretical/conceptual framework, research questions and your research methodology.
• In the second phase, you collect and analyse your (qualitative and/or quantitative) data.
• In the third phase, you do your final analysis and present your findings both orally and in a report. The presentation seminar is a compulsory part of this third phase.

Onderwijsvorm
Research internship

Toetsvorm
Report (55%), Oral presentation (15%), Execution (30%) and Attitude (Pass/fail)

Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion.
The internship is supervised by one and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The onsite supervision can be carried out by a trainee research assistant (AIO), postdoc or researcher.

Literatuur

Substantial additional reading on both research methodology and the topic of the research, to be searched for by student.

Vereiste voorkennis
To ensure that students do have enough background knowledge, it is required that you have passed the three compulsory courses: ‘Qualitative and Qualitative Research Methods’, ‘Communication Organization and Management’, and ‘Analysis of Governmental Policy’ (grade at least 6).

Doelgroep
Students MSc MPA year 1

Overige informatie
Internships can only start when the draft research proposal and application and agreement form is approved and signed by the specialization coordinator.

The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document "Student placement (internship) and literature regulations". The student must send a request for extension to the MPA Examination Board.

Information on Master internships is made available on Canvas.

Internship I MPA Specialization Management and Entrepreneurship

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Doel vak
The aim of the first internship I is to apply the competences acquired during the previous courses in a research project in order to ground the knowledge, attitudes and skills of interdisciplinary research. More specifically, the aims of the internships are:
• The student conducts scientific research under supervision.
• The student is able to find scientific information and to
evaluate this for the benefit of his or her own research question under supervision.

- The student is able to apply scientific methods and knowledge, to answer research questions and to generate evidence-based knowledge under supervision.
- The student is able to formulate a research question, to choose, to implement and to evaluate the (appropriate) research method, and to phrase the obtained results in report under supervision.
- The student learns to cooperate with researchers of various disciplines.
- The student is able to orally present the research results and to discuss the findings.
- The student obtains a good impression of a potential future field of career.

Inhoud vak
The internship is a compulsory part of the Master MPA. The duration of the internship is 5 months (27 EC). An internship placement must provide the student with the opportunity to learn how to conduct research under supervision. The onsite supervisor of the internship is linked to an academic or research institution.

Internships can be conducted at various locations such as the Ministry of Health, Welfare and Sports, the Nederlandse Mededingingsautoriteit, the Health Council, medical organizations such as the municipality health service (GGD), hospitals, consultancies, the (pharmaceutical) industry and several research institutes, such as universities or e.g. the National Institute for Public Health and the Environment (RIVM).

An internship typically has three phases:

- In the first phase, you write your research proposal consisting of an introduction, background, theoretical/conceptual framework, research questions and your research methodology.
- In the second phase, you collect your (qualitative and/or quantitative) data.
- In the third phase, you do your final analysis and present your findings both orally and in a report. The presentation seminar is a compulsory part of this third phase.

Onderwijsvorm
Research internship

Toetsvorm
Report (55%), Oral presentation (15%), Execution (30%) and Attitude (Pass/fail)

Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion.

The internship is supervised by one and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The onsite supervision can be carried out by a trainee research assistant (AIO), postdoc or researcher.
Doelgroep
Students MSc MPA year 1

Overige informatie
Internships can only start when the draft research proposal and application and agreement form is approved and signed by the specialization coordinator.
To ensure that students do have enough background knowledge, it is required that you have passed the three compulsory courses: ‘Qualitative and Qualitative Research Methods’, ‘Communication Organization and Management’, and ‘Analysis of Governmental Policy’ (grade at least 6).
The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document "Student placement (internship) and literature regulations". The student must send a request for extension to the MPA Examination Board.

Information on Master internships is made available on Canvas.

Internship I MPA Specialization Policy

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Doel vak
The aim of internship I is to apply the knowledge and competences acquired during the previous courses in a research project, in order to ground the knowledge, attitudes and skills of trans- or interdisciplinary research. More specifically, during Internship I:
• The student conducts scientific research under supervision.
• The student is able to find scientific information and to evaluate this for the benefit of his or her own research question under supervision.
• The student is able to apply scientific methods and knowledge, to answer research questions and to generate evidence-based knowledge under supervision.
• The student is able to formulate a research question, to choose, to implement and to evaluate the (appropriate) research method, and to phrase the obtained results in report under supervision.
• The student learns to cooperate with researchers of various disciplines.
• The student learns to orally present the research results and to discuss the findings.
• The student obtains a good impression of a potential future field of career.

Inhoud vak
The internship is a compulsory part of the Master MPA. The duration of the internship is 5 months (27 EC). An internship placement must provide the student with the opportunity to learn how to conduct research under
supervision. The onsite supervisor of the internship is linked to an academic or research institution.

Internships can be conducted at various locations such as the Ministry of Health, Welfare and Sports, the Public Health Inspectorate, the Health Council, medical organizations such as the municipality health service (GGD), consultancies, the (pharmaceutical) industry and several research institutes, such as universities or e.g. the National Institute for Public Health and the Environment (RIVM).

An internship typically has three phases:

- In the first phase, you write your research proposal consisting of an introduction, background, theoretical/conceptual framework, research questions and your research methodology.
- In the second phase, you collect your (qualitative and/or quantitative) data.
- In the third phase, you do your final analysis and present your findings both orally and in a report. The presentation seminar is a compulsory part of this third phase.

Onderwijsvorm
Research internship

Toetsvorm
Report: grade 1-10, weight = 55%
Oral presentation: grade 1-10, weight = 15%
Execution: grade 1-10, weight = 30%
Attitude: pass/fail

Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion.

The internship is supervised and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The onsite supervision can be carried out by a trainee research assistant (AIO), postdoc or researcher.

Doelgroep
Students MSc MPA year 1

Overige informatie
Internships can only start when the draft research proposal and application and agreement form is approved and signed by the specialization coordinator. To ensure that students do have enough background knowledge, it is required that you have passed the three compulsory courses: ‘Qualitative and Qualitative Research Methods’, ‘Communication Organization and Management’, and ‘Analysis of Governmental Policy’ (grade at least 6).

The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document "Student placement (internship) and literature regulations". The student must send a request for extension to the MPA Examination Board.

Information on Master internships is made available on Canvas.

Internship II MPA Specialization Communication
Doel vak
The internship is a compulsory part of the Master’s programme. The aims of the internship are:
• Learn to independently apply and expand your practical science communication skills in one particular area of the field (writing, multi-media, facilitation, policy and strategy development, content design, etc.).
• Critical self-assessment and reflection on acquired science communication competencies in the field.
• Conduct scientific research independently: assess scientific information, design a research project, apply scientific methods, collect data, report and discuss findings.
• Present and discuss about internship and research outcomes.
• Learn to cooperate with researchers and practitioners of various disciplines.
• Gain an impression of a potential future field of career.

Inhoud vak
When you are enrolled in the VU Science Communication specialization or the UvA Major Science Communication you need to conduct one internship (30 ECTS, 5 months). MPA students that choose the Science Communication specialization also need to do at least one internship (30 ECTS, 5 months) in the Science Communication field. The internship has two possible formats: the full Research Internship and the Reflective Practice Placement (RPP). The complete and up-to-date information about the internship can be found in the SC internship guide line on Canvas (science communication community).

Onderwijsvorm
Work-based placement

Toetsvorm
Written report and oral presentation.
Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion. The internship is supervised and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The day-to-day supervision can be carried out by a trainee research assistant (AIO), postdoc or researcher.

Doelgroep
Students MSc MPA year 2

Overige informatie
Participation in this compulsory component is only permitted if the student meets the relevant requirements for admission. These
requirements are detailed in the Internship guideline MPA (on Canvas) and in the Academic and Examination Regulations. The work-based placement is subject to the FALW document: “Student placement (internship) and literature regulations”. These regulations require detailed written agreements between supervisors and student that specify the conditions for the Master research project. This agreement should be sent for approval by the MPA internship or master co-ordinator at least two weeks before the planned start of the work-based placement. If the proposal is of sufficient quality, you can start your internship. If not, you’ll need to adapt your proposal and send it for approval again. You can only start your internship after your research design has been approved. The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document “Student placement (internship) and literature regulations”. The student must send a request for extension to the MPA Examination Board. Information on Master internships is made available on Canvas.

Internship II MPA Specialization International Public Health

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**Doel vak**
To apply the theoretical knowledge and practical skills acquired during the theoretical part of the program to a practical research setting. Depending on your specialisation this will be in the field of Management and Entrepreneurship in the Health and Life Sciences, Policy in the Health and Life Sciences, Communication in the Health and Life Sciences or International Public Health. In contrast to the first internship, you now have co-responsibility for the academic quality of your placement. You have only one VU supervisor. Students take part in a research project at the VU or elsewhere. Duration of the internship is 5 months (30 EC).

**Inhoud vak**
The internship is a compulsory part of the Master MPA. An internship placement must provide the student with the opportunity to learn how to conduct research under supervision. An internship typically has three phases. In the first phase, you write your research proposal consisting of an introduction, background, theoretical/conceptual framework, research questions and your research methodology. In the second phase, you collect your (qualitative and/or quantitative) data. In the third phase, you do your final analysis and present your findings both orally and in a report. The evaluation week is a compulsory part of this third phase. Aim of this week is to reflect practice back to theory.
Internships can be done at various locations such as the Ministry of Health, Welfare and Sports, the Public Health Inspectorate, the Health Council, medical organizations such as the municipality health service (GGD), consultancies, the (pharmaceutical) industry and several research institutes, such as universities or e.g. the National Institute for Public Health and the Environment (RIVM).

You can also conduct your internship abroad. The first and third phase of your internship will still take place in the Netherlands, to ensure the quality and learning experiences.

**Onderwijsvorm**
Work-based placement

**Toetsvorm**
Written report and oral presentation.

Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion.

The internship is supervised and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The day-to-day supervision can be carried out by a trainee research assistant (AIO), postdoc or researcher.

**Doelgroep**
Students MSc MPA year 2

**Overige informatie**
Participation in this compulsory component is only permitted if the student meets the relevant requirements for admission. These requirements are detailed in the Internship guideline MPA (on Canvas) and in the Academic and Examination Regulations.

The work-based placement is subject to the FALW document: “Student placement (internship) and literature regulations”. These regulations require detailed written agreements between supervisors and student that specify the conditions for the Master research project. This agreement should be sent for approval by the specialisation co-ordinator at least two weeks before the planned start of the work-based placement. If the proposal is of sufficient quality, you can start your internship. If not, you’ll need to adapt your proposal and send it for approval again. You can only start your internship after your research design has been approved.

The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document “Student placement (internship) and literature regulations”. The student must send a request for extension to the MPA Examination Board.

Information on Master internships is made available on Canvas.

**Internship II MPA Specialization Management and Entrepreneurship**

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<td>dr. T.P. Groen</td>
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<tr>
<td>Examinator</td>
<td>dr. T.P. Groen</td>
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Doel vak
To apply the theoretical knowledge and practical skills acquired during the theoretical part of the program to a practical research setting. Depending on your specialisation this will be in the field of Management and Entrepreneurship in the Health and Life Sciences, Policy in the Health and Life Sciences, Communication in the Health and Life Sciences or International Public Health. In contrast to the first internship, you now have co-responsibility for the academic quality of your placement. You have only one VU supervisor. Students take part in a research project at the VU or elsewhere. Duration of the internship is 5 months (30 EC).

Inhoud vak
The internship is a compulsory part of the Master MPA. An internship placement must provide the student with the opportunity to learn how to conduct research under supervision. An internship typically has three phases.

In the first phase, you write your research proposal consisting of an introduction, background, theoretical/conceptual framework, research questions and your research methodology.

In the second phase, you collect your (qualitative and/or quantitative) data.

In the third phase, you do your final analysis and present your findings both orally and in a report. The evaluation week is a compulsory part of this third phase. Aim of this week is to reflect practice back to theory.

Internships can be conducted at various locations such as the Ministry of Health, Welfare and Sports, the Nederlandse Mededingingsautoriteit, the Health Council, medical organizations such as the municipality health service (GGD), hospitals, consultancies, the (pharmaceutical) industry and several research institutes, such as universities or e.g. the National Institute for Public Health and the Environment (RIVM).

You can also conduct your internship abroad. The first and third phase of your internship will still take place in the Netherlands, to ensure the quality and learning experiences.

Onderwijsvorm
Work-based placement

Toetsvorm
Written report and oral presentation.

Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion. The internship is supervised and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The day-to-day supervision can be carried out by a trainee research assistant (AIO), postdoc or researcher.

Doelgroep
Students from the MSc MPA year 2

Overige informatie
Participation in this compulsory component is only permitted if the student meets the relevant requirements for admission. These requirements are detailed in the Internship guideline MPA (on...
Canvas) and in the Academic and Examination Regulations. The work-based placement is subject to the FALW document: “Student placement (internship) and literature regulations”. These regulations require detailed written agreements between supervisors and student that specify the conditions for the Master research project. This agreement should be sent for approval by the MPA specialisation co-ordinator at least two weeks before the planned start of the work-based placement. If the proposal is of sufficient quality, you can start your internship. If not, you’ll need to adapt your proposal and send it for approval again. You can only start your internship after your research design has been approved. The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document “Student placement (internship) and literature regulations”. The student must send a request for extension to the MPA Examination Board. Information on Master internships is made available on Canvas.

Internship II MPA specialization Policy

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Doel vak
During Internship II the student applies competences acquired to a research project on a higher level of complexity of the issue studied and research methods used and exercises greater independence in the conduct of the research than in the first internship. More specifically, during internship II:
• The student learns to independently conduct scientific research.
• The student improves her/his capacities regarding the independent search for scientific information and the evaluation/ assessment hereof for use in the context of her or his own research question.
• The student improves her/ his ability to apply scientific methods and knowledge, to answer research questions and to generate evidencebased knowledge.
• The student improves her/ his ability to formulate a research question, to choose, to implement and to evaluate the (appropriate) research method, and to phrase the obtained results in report.
• The student improves her/ his ability to cooperate with researchers of various disciplines.
• The student improves her/ his ability to orally present the research results and to discuss the findings.
• The student obtains a good impression of a potential future field of career.

Inhoud vak
The internship is a compulsory part of the Master MPA. The duration of the internship is 5 months (30 EC). An internship placement must provide the student with the opportunity to learn how to conduct research under
supervision. The onsite supervisor of the internship is linked to an academic or research institution.

Internships can be done at various locations such as the Ministry of Health, Welfare and Sports, the Public Health Inspectorate, the Health Council, medical organizations such as the municipality health service (GGD), consultancies, the (pharmaceutical) industry and several research institutes, such as universities or e.g. the National Institute for Public Health and the Environment (RIVM).

An internship typically has three phases

• In the first phase, you write your research proposal consisting of an introduction, background, theoretical/conceptual framework, research questions and your research methodology.
• In the second phase, you collect your (qualitative and/or quantitative) data.
• In the third phase, you do your final analysis and present your findings both orally and in a report. The presentation seminar is a compulsory part of this third phase.

Onderwijsvorm
Research internship

Toetsvorm
Report: grade 1-10, weight = 55%
Oral presentation: grade 1-10, weight = 15%
Execution: grade 1-10, weight = 30%
Attitude: pass/fail

Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion.

The internship is supervised and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The onsite supervision can be carried out by a trainee research assistant (AIO), postdoc or researcher.

Doelgroep
Students MSc MPA year 2

Overige informatie
Participation in this compulsory component is only permitted if the student meets the relevant requirements for admission. These requirements are detailed in the Internship guideline MPA (on Canvas) and in the Academic and Examination Regulations. The work-based placement is subject to the FALW document: “Student placement (internship) and literature regulations”. These regulations require detailed written agreements between supervisors and student that specify the conditions for the Master research project. This agreement should be sent for approval by the specialisation co-ordinator at least two weeks before the planned start of the work-based placement.

If the proposal is of sufficient quality, you can start your internship. If not, you'll need to adapt your proposal and send it for approval again. You can only start your internship after your research design has been approved.
The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document “Student placement (internship) and literature regulations”. The student must send a request for extension to the MPA Examination Board.

Information on Master internships is made available on Canvas.

Management of Corporate Social Responsibility (CSR)

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<td>dr. A.S. Muftugil-Yalcin MSc</td>
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Doel vak
- To explain and distinguish the aims and internal and external drivers of CSR.
- To apply indexes for corporate social responsible entrepreneurship like ISO, GRS etc.
- To explain the role of CSR certifications
- To examine ways to manage Triple P bottom line strategies for sustainable entrepreneurship (especially from the health and life sciences)
- To apply skills regarding strategic analysis and benchmarking
- To examine difficulties in organizational change processes
- To critically reflect on concepts and issues in the field of CSR

Inhoud vak
Although the shape and form of Corporate Social Responsibility (CSR) has changed over the years, it is broadly accepted that corporations need to act socially responsible. In the health and life sciences, Access to Medicine, sustainable innovation and precautionary principles are important concepts when it comes to CSR. The implementation of CSR policies, however, is not self-evident. Rather, it requires effective management skills to guide large organizations in these transitions required to tackle new challenges. Managers have to motivate their teams (whether small or large) which implies that they are in charge, know what to do and show leadership and social skills in case of conflicting interests. In this course, insight into the requirements and incentives of sustainable innovations and insight in management skills required to implement these are deepened.

By combining critical reflection on key insights from literature with working on an analysis of a real-life company claiming the implementation of CSR policy, you will anticipate to the needed management skills and develop insight in institutional challenges of sustainable innovations. You will assess questions such as ‘What is the corporate drive of working sustainably? What impediments arise when we try to change organizations? How can these be managed? How can
In answering these questions, we will draw upon the fields of action inquiry, corporate governance, organizational development, business ethics and leadership. You are challenged to analyze some key articles in which the authors analyze the basic philosophy of sustainable entrepreneurship and the relationships between sustainability criteria and economic performance. Some criteria are obvious, such as no child labour, no investments in weapons, while other criteria, like the triple P concept (performing in a balance between People, Planet and Profit), need further definition. Specific sustainability criteria for benchmarking and several methods to rate the CSR performance of a company have to be compared and analyzed. You will learn to analyze management challenges from different theoretical and practical levels and reflect on these insights by writing an essay on key concepts and issues in the field of CSR.

Based on the actual ‘CSR-challenge’ of an organization, your team will analyze the CSR performance of that organization and interview a CSR-manager of a profit organization in the health and life science domain, to reconstruct the obstacles encountered in the CSR implementation process. Based on this interview and your newly-acquired knowledge you will design strategic management options to cope better with these constraints and obstacles. You will work in small teams, each team analyzing a different company. You will be in charge of this assignment; showing leadership and taking responsibility for the academic quality of your final product.

Onderwijsvorm
Lectures, self-study, response lectures and case study.

Lectures: 14 hours
Work groups: 20 hours (discussing key literature: 10 hours; response lectures: 10 hours)
Presenting and discussing advisory reports: 4 hours
Self study: remaining hours (literature study and essay: 38 hours; case study: 91 hours)

In the case study, you’ll practice integrating theories and tools, and applying the tools (like SWOT analysis, benchmarking tools).

Toetsvorm
Each assignment has to be concluded with a grade of 5.5 or higher. Attendance to lectures and work groups is compulsory.

Individual assessment:
Essay on key concepts and issues in the field of CSR (40%)
Observed attitude and skills in group assignments: presentations, formulation of discussion questions, minutes of the discussion (10%).

Group assessment:
Interview design (pass / fail)
Case study advisory report (40%)
Case study presentation (10%)

Literatuur
To be announced on Canvas The literature will consist of management articles, scientific management literature and management tools.
Vereiste voorkennis  
Proven knowledge of organizations and management or policy is required  
(e.g. by having passed COM or AGP).

Doelgroep  
Optional course for 2nd year Master students Management, Policy Analysis and Entrepreneurship in Health and Life Sciences (MPA) and the Societal differentiation of the Health, Life & Natural Sciences.

Intekenprocedure  
VU-net registration will close 4 weeks before the start of the course. Based on that number of registered students, we will arrange your team interviews with the companies. Retracting your registration might have detrimental effects on the composition of the teams and on our network of CSR-managers.

Overige informatie  
Active participation of individuals in work group meetings and group assignments is considered a prerequisite to pass the course.

Management of Innovative Technologies in Community Based Health Care

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Doel vak  
- To learn about the development and usage of M-health, E-health, point of care diagnostics, self-monitoring tools, (big)data analysis tools.  
- To give in depth background of the technological developments and their usage.  
- To familiarize with current technologies in community based health care.  
- To reflect on the consequences of the technological development for the patient, care provider and the health care system at large.  
- To be able to put these developments in context. Students are able to reflect critically on practical issues from specific theoretical perspectives.  
- To engage with care providers, patient groups, technology firms and others to learn about and discuss "hot topics and developments"

Inhoud vak  
This course will provide the students with an in-depth study of (the development of) front-line innovative technologies in community based health care. The course is developed by the Amsterdam health & technology institute (Ahti). Ahti is an institute for education,
research, and valorization in the area of Urban Health and technology, using a network of global living labs.
The current changes in health care systems and health care provision include a central role for technology. With increasing demands on staff and resources, technology may contribute to sustainable solutions in health care. In this course we expose students to front-line technologies and challenge them to reflect on the consequences new technologies in health care have. Students will focus on technical understanding of the developments as well as how technology can offer cost-effective solutions that can improve the healthcare system as a whole. This topic will be approached based on specific case studies from different perspectives, including patient / consumer, health care provider/entrepreneur, insurer/financier, and scientist / technology developer.

Onderwijsvorm
Management of innovative technologies in community based healthcare is a course of eight weeks (6 ECTS), with a maximum of 25 students.
The most recent course schedule is to be found on Canvas.
The total study time is 160 hours. Tuition methods include interactive lectures, workshops, online exchange and self-study.
In the course we will make use of blended learning where possible and face to face teaching when needed.
The different elements have the following study time:
- lectures: 24 hours
- Work groups: 18 hours
- Groups assignment: 60 hours
- Preparing the presentation: 10 hours
- Self-study: 48 hours

Toetsvorm
Written exam (40 %), group assignment (40 %), presentation in seminar form (20 %). All parts need to be passed.

Literatuur
To be announced on Canvas

Doelgroep
Students in the second year of the MSc Management and Entrepreneurship in the Health and Life Sciences

Managing Science and Technology in Society

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**Doel vak**
In this course, students:
- acquire knowledge and understanding of philosophical and social science theories on science and technology development
- gain insight into the mutual shaping of science & technology and society
- acquire knowledge and understanding of the basic concepts and issues in the field of science and technology studies
- acquire knowledge and understanding of technological development through Responsible Research and Innovation
- acquire knowledge and understanding of interactive methods for directing and guiding developments in science and technology
- gain insight into the need for democratization of science and technology
- learn to recognize and operate the central STS concepts in their own life worlds
- learn to communicate verbally and in scientific writing about their knowledge and understanding and to critically reflect on that

**Inhoud vak**
The ‘Managing Science and Technology in Society’ course offers an advanced introduction into the academic field of ‘Science Technology & Society Studies’, as part of the second year of the master ‘Management, Policy Analysis and Entrepreneurship for the Health and Life Sciences’.

As a MPA student you are trained to operate at the interface of your natural science discipline and society, thereby making a contribution to answering the complex social problems arising in these areas. At the dawn of the 21st century, technology and science have an enormous potential for transforming life on earth. At the same time, the dimensions of our human culture shape the directions in which science and technology develop. The production of scientific knowledge and technological artefacts can solve some of our problems, but at the same time they give rise to new problems. During this course you will study the interactions of science and technology with society, and the various ways in which they mutually shape one another. These interactions invoke a lot of questions. Should we embrace genetically modified food? How do new human reproductive technologies interfere with the way we deal with sexuality and social responsibilities?

In this course you will get acquainted with a conceptual framework to critically assess these kinds of questions. It aims at understanding the intertwinement of science, technology and society, and the importance of a broad concern with these interactions, in order to shape our future in the way that we want it.

**Onderwijsvorm**
‘Managing Science and Technology in Society’ is a fulltime course of eight weeks (6 ECTS). The course schedule is available on Canvas. The total study time is 168 hours. Tuition methods include lectures, work groups, a group project and self-study.

The different elements have the following study time:
- lectures 22 hours
- work groups 12 hours
- group project 32 hours
Toetsvorm
The examination consists of:
- Mini-essay 1 (20%)
- Mini-essay 2 (20%)
- Final essay (take-home essay exam) (40%)
- SCOB-project (20%)

Both the essay exam and the SCOB project need to be passed.

Literatuur
The literature of this course consists of selected chapters from the book "An introduction to science and technology studies", Sergio Sismondo 2010, which can be purchased at the VU book shop. Complementary articles are provided for via Canvas.

Doelgroep
This is a compulsory course for second year students of the master Management, Policy Analysis and Entrepreneurship in the Health and Life Sciences. The course is optional for other Master students in the health and life sciences.

Overige informatie
More information: T.J.Schuitmaker@vu.nl

Maternal and Child Health (Caput)

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Doel vak
- Students obtain insight in the problems within Maternal and Child Health.
- Students obtain insight in the determinants of Maternal mortality and severe morbidity worldwide.
- Students identify and develop strategies to prevent maternal and perinatal mortality and severe morbidity.
- Students obtain insight how the Millenium Development Goals contributed to the progress in Mother and Child Health as well as the developments in the upcoming MDG period
- Students demonstrate to write accordingly to academic standards

Inhoud vak
Mother and Child Health has been an important topic for many years, both in the developed as the developing World. Since 1990, there has been an International focus on this field via the specific targets in the Millennium Development Goals (MDG). This focus is also extended in the
Post-MDG period.

Via desk research, students investigate the progress of Maternal and Child Health since 1990 with a focus on the role of the MDG. Developments in Maternal and Child Health in the Post-MDG period (2015-2030) are also included in this caput.

**Onderwijsvorm**
Self study, scheduled contact moments with lecturer.

**Toetsvorm**
Evidence-based essay (desk-research)

**Literatuur**
Via the lecturer

**Doelgroep**
Students of the Master Management, Policy-analysis and entrepreneurship in the Health and Life Sciences.

**Overige informatie**
This is a caput (self study with a few contact moments with the lecturer). You can contact the lecturer to start the caput via email:
jj.m.van_roosmalen@lumc.nl

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**Lecturer:**
Prof. dr. J.J.M. (Jos) van Roosmalen

**Policy, Politics and Participation**

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**Doel vak**
1) To deepen your analytic skills with respect to the investigation of a complex societal problem;  
2) To deepen and broaden your knowledge of political theory and policy-making;  
3) To acquire further insight into the practice of qualitative social scientific research;  
4) To acquire further insight into specific methods and techniques of qualitative social scientific research;
5) To improve skills in data collection and data analysis;
6) To improve your argumentation skills;
7) To improve your communication skills;
8) To improve your skills in working effectively in a project team.

Inhoud vak
In this course you get the chance to gain experience in the practical implementation of a prominent methodology for interactively investigating complex societal problems: focus group research. In a research project aimed at the development of policy recommendations concerning such complex problem, you will both improve your focus group research skills and deepen your understanding of the relevant theoretical concepts in the areas of policy studies, science and technology studies and political theory. In a group of eight to twelve students you will participate in an interactive research project executed at the Athena institute (possibly with a real external client). In this project you will be trained in and practice various skills for data collection (such as focus group design and facilitation) and data analysis (such as qualitative content analysis). Specific attention is paid to your personal interactive research skills. At the end of the course, you present your findings and recommendations orally.

In parallel to the group work for your research project, you will follow lectures, attend and prepare for guest lectures by people active in the field of policy-making, and actively participate in seminars following the so-called "CARQ"-methodology. During these CARQ-seminars literature is studied and discussed via the identification of a Core quotation, an analysis of the Argumentative structure of the paper at issue, the identification and articulation of pertinent Relations the paper has with other material/issues/papers/methodologies/..., and, finally Questions that elicit in-depth discussions of topics pertinent to the course.

Onderwijsvorm
Lectures: 18 hours
Training workshops: 19 hours
CARQ seminars: 24 hours
Project assignment: 80 hours
focus group execution: 6 hours
Final presentations project results: 4 hours
Self study and assignment: remaining hours

Toetsvorm
The course does not have an exam. You will be assessed on the basis of the group assignment, a group presentation, your individual performance during the course and a take-home assignment. More precisely:

Individual grade [45%]:
CARQ facilitation and participation (10%)
Focus group facilitation (10%)
Participation (10%)
Take-home assignment (15%)

Group grade [55%]:
Focus group design and execution (20%)
Presentation (including analysis, policy recommendations and discussion) (35%)

For all group assignments a pass grade (> 5.5) needs to be obtained in
order to receive a final mark. For individual assignments a resit can be done.

Literatuur
To be announced on Canvas

Vereiste voorkennis
Basic knowledge of (interactive) policy processes, policy analysis and relevant research skills are required.

Doelgroep
Optional course for Master students Management, Policy Analysis and Entrepreneurship in Health and Life sciences (MPA), Societal differentiation of the Health, Life & Natural Sciences. Mandatory course for MPA students who specialize in Policy.

Intekenprocedure
Registration deadline by VUnet is 4 weeks before the start of the course.

Overige informatie
Attendance is compulsory. (You will spend a great deal of your time on team work.)

Reflective Practice Internship Science Communication

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<td>dr. J.F.H. Kupper</td>
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Doel vak
The internship is a compulsory part of the Master’s programme. The aims of the internship are:
• Learn to independently apply and expand your practical science communication skills in one particular area of the field (writing, multi-media, facilitation, policy and strategy development, content design, etc.).
• Critical self-assessment and reflection on acquired science communication competencies in the field.
• Conduct scientific research independently: assess scientific information, design a research project, apply scientific methods, collect data, report and discuss findings.
• Present and discuss about internship and research outcomes.
• Learn to cooperate with researchers and practitioners of various disciplines.
• Gain an impression of a potential future field of career.

Inhoud vak
When you are enrolled in the VU Science Communication specialization or the UvA Major Science Communication you need to conduct one internship (30 ECTS, 5 months). One of the two possible formats is the Reflective Practice Internship (RPI). The complete and up-to-date information about
the internship can be found in the SC internship guide line on Canvas (science communication community).

**Onderwijsvorm**
Work-based placement

**Toetsvorm**
Written report and oral presentation.
Within six weeks after the start of the master internship, an interim evaluation will take place to assess whether there is a reasonable chance of the placement being brought to a successful completion. The internship is supervised and assessed by two lecturers. Both lecturers are members of the academic staff at VU University Amsterdam. The day-to-day supervision can be carried out by a trainee research assistant (AiO), postdoc or researcher.

**Doelgroep**
Students MSc Earth science year 2

**Overige informatie**
Participation in this compulsory component is only permitted if the student meets the relevant requirements for admission. These requirements are detailed in the Internship guidelines of Earth science (on Canvas) and in the Academic and Examination Regulations.
The work-based placement is subject to the FALW document: “Student placement (internship) and literature regulations”. These regulations require detailed written agreements between supervisors and student that specify the conditions for the Master research project. This agreement should be sent for approval by the science communication co-ordinator at least two weeks before the planned start of the work-based placement. If the proposal is of sufficient quality, you can start your internship. If not, you’ll need to adapt your proposal and send it for approval again. You can only start your internship after your research design has been approved.
The placement may be extended by 6 EC, subject to conditions that can be found in the FALW document “Student placement (internship) and literature regulations”. The student must send a request for extension to the Earth science Examination Board. Information on Master internships is made available on Canvas.

**Research methods for analyzing complex problems**

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<td><strong>Examinator</strong></td>
<td>A. van Luijn MSc</td>
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<tr>
<td><strong>Docent(en)</strong></td>
<td>J.W. Schuijer, drs. ir. A. Fraaije, A.E. Bunders MSc, drs. ir. F. Vogels</td>
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Doel vak
The objectives of this course are:

- To understand the differences between beta- and gamma research;
- To acquire insight in and understanding of a real world research process, including knowledge of the character of complex societal issues and the needs, advantages and disadvantages of real world research;
- To acquire insight relevant research methods (both quantitative and qualitative) to address complex societal problems, their underlying theoretical concepts and their relative strengths and weaknesses;
- Being able to apply these various research methods in a specific societal context;
- To interpret quantitative and qualitative findings;
- Being able to create an adequate research design for the investigation of a specific complex societal problem.

Inhoud vak
Contemporary societies increasingly face complex social problems, such as climate change, HIV/AIDS or ethnic and religious diversity. These complex problems involve a variety of social actors: policy-makers, professionals, NGOs, industries, science and, of course, the public at large. Addressing these complex issues demands an approach that investigates, analyzes and integrates the positions and knowledge of different actors.

This course offers an (advanced) introduction to various research methods used in real world research, including questionnaires, surveys, semi-structured interviews, and focus groups. These methods are commonly used in research into complex problem contexts, communication and opportunities for intervention. Strengths and weaknesses of each research method and technique will be discussed, as well as its possibility to be applied in different societal contexts.

Onderwijsvorm
Research Methods for Analyzing Complex Problems is a parttime course of eight weeks (6 ECTS). The total study time is 160 hours. Tuition methods include lectures, workgroups, workshops, group project work and self-study.

The different elements have the following study time:
- lectures 20 hours
- workgroups and training 36 hours
- examination 3 hours
- project work & reading (self-study) Remaining hours

Please note that attendance to the workgroup sessions is compulsory. If you miss one workgroup, with a good reason, you will receive an additional assignment. If you miss more than one workgroup session it is no longer possible to pass the project part of the course.

Attendance to the lectures is highly recommended. In our experience, relying on self-study alone is insufficient to apply the theory of the lectures in the assignments of the workgroups, and to pass the exam.
Toetsvorm
The course grade is based on the group assignment 'research design' and the exam. Both aspects need to be graded 6.0 or higher.
Exam 50% of total grade
Group assignment 'research design' 50% of total grade

Literatuur
The literature of this course consists of selected scientific articles that are provided on Canvas, and the books:

An overview of the literature per lecture will be provided on Canvas.

Doelgroep
The course ‘Research Methods for Analyzing Complex Problems’ is a compulsory course for first year master students ‘Management, Policy Analysis and Entrepreneurship in Health and Life Sciences’. This course is also a compulsory course within the Science communication- and Societal differentiations of Health, Life and Natural Sciences Master programmes. It is an optional course for other Life Sciences Master program students at the VU University.

Intekenprocedure
VUnet

Overige informatie
Lectures are in English, part of the workgroups are in Dutch. The assignments are written in English.

Please note that attendance to the workgroup sessions is compulsory. If you miss one workgroup, with a good reason, you will receive an additional assignment. If you miss more than one workgroup session it is no longer possible to pass the project part of the course.

Attendance to the lectures is highly recommended. In our experience, relying on self-study alone is insufficient to apply the theory of the lectures in the assignments of the workgroups, and to pass the exam.

Contact:
Durwin Lynch (d.lynch@vu.nl)

Science and Communication

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<td>P. Klaassen MA</td>
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**Doel vak**

a) Gain theoretical insight in the nature of science,
b) Gain theoretical insight in the nature of communication,
c) Gain theoretical insight in the relationship between science and society,
d) Gain insight in the role of science communication in this relationship,
e) Acquire knowledge of different theories and models of science communication,
f) Acquire knowledge of different strategies, media and activities for science communication,
g) Learn how to practically apply theoretical concepts from the field of science communication in communicating science,
h) Develop practical skills for science communication (especially writing and giving oral presentations).
i) Reflect on your own knowledge and competencies pertinent to your projected (ideal) role as science communicator.

**Inhoud vak**

Science is all around us and shapes our lives in many different ways. From the vaccines you need to get when traveling abroad to the smartphone you use on a daily basis, and from the public transportation you use to get to the university to the ingredients of your toothpaste: scientific knowledge is elemental to all of these. Simultaneously, society shapes the ways in which science and technology develop too. Science, technology and society influence each other continuously—or, to put it differently, they ‘communicate’.

Students of the Science Communication specialization are expected to become experts in understanding and designing interactions between science and society. In order to make this interaction fruitful and valuable for both science and society, it is first of all important to gain theoretical knowledge about science, about communication and about science communication. Science and Communication provides students with the theoretical and conceptual foundations of the discipline of science communication. Thus, you will develop an in-depth understanding of communication processes at the core of several interfaces, including those between scientists from different disciplines, between different sciences and their stakeholders, and between science and the public.

**Onderwijsvorm**

Lectures (18 h)
Workgroups (15 h)
Home-study for group assignments (12 h)
Home-study for individual assignments/exam (100 h)

**Toetsvorm**

a) Participation. (10%)
This consists of the following:
- (small) individual assignments,
- a pitch presentation and
- a "job application".
All these are assessed as pass or fail. If you pass all of them, you have earned the first 10% of your final mark. For each one you fail, you have to do an alternative assignment.
Nota bene: if you fail your participation, this cannot be compensated with an alternative assignment!
b) A group assignment in which you develop a label to an exhibit at a science museum and write an accompanying essay. (10%)
c) A review of a science communication effort of your own choosing (an exhibit at a science center or museum, a public lecture, a (popular) science book, et cetera...). (10%)
d) "TED-talk" in which you present the research you did (e.g. for your Bsc thesis or (first) Msc internship). (20%)
e) Exam. (50%)

To pass, your grades for assignments (a), (b) and (e) have to be 6 or higher. Assignments (b), (c) and (d) are all mandatory, but grades for these individual components can be compensated by other grades.

Resit:
In case your weighed average of (a) to (e) (with sufficient grades for (a), (b) and (e)!) is not sufficient, you have to take a resit. This can either consist of a second attempt at (c) or (d), or a re-exam.

Literatuur
Academic articles. Direct links to articles will be provided on Canvas.

Doelgroep
The course Science and Communication is a compulsory course for students of the Master specialisation Science Communication (Wetenschapscommunicatie) and is a prerequisite for the internship. Science and Communication is an optional course for students from other master programs in the health and life sciences.

Science in Dialogue

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Doel vak
To gain knowledge of and insight into:
- the basic concepts and issues in the understanding of science-society interactions, both from a science and technology studies and communication science perspective
- the nature and course of interpersonal and group communication processes relevant to the formal and informal dialogue between science and society
- the nature and form of dialogical science communication, aimed at reflective learning and mutual understanding

To acquire or improve:
- individual skills for effective interpersonal communication
- individual skills for the design and facilitation of the science-society dialogue

**Inhoud vak**
This course examines the public character of scientific controversy and focuses on the communicative aspects of a fruitful science-society dialogue. At the dawn of the 21st century, science, and particularly fields that combine science and engineering such as nanotechnology and synthetic biology, holds a great promise for the progress of our societies. At the same time, these developments are controversial. They lead to a variety of concerns related to risks, benefits and wider moral issues. Nanotechnology creates materials with novel characteristics that help us, but may also contain risks for health and environment. Synthetic biology develops new biological systems that may be very useful, but radically change the nature and meaning of life. Clearly, advances in science do not always match the needs, desires and expectations of society. On the other hand, parts of society might not always appreciate the nature and scope of scientific findings. For a fruitful relationship between science and society, a constructive science-society dialogue is necessary.

This course offers advanced lectures on the basic concepts and issues of dialogical science communication: communication, learning, dialogue, understanding, controversy, democracy. A series of workshops and small group assignments presents communicative tools and spaces such as discussion games, science theatre and multimedia platforms that can be used to design and facilitate science-society interactions. Training workshops will focus on improving the students' individual communication and facilitation skills. The students' individual learning curve as a science communicator and facilitator is self-evaluated by means of a reflection report.

Every course week is completed with a mini-exam.

**Onderwijsvorm**
Lectures (14h), Workgroups (28h), Training workshops (24h), Dialogue presentations (12h), Selfstudy (remaining hours)

**Toetsvorm**
Group assignment (50%), Take home exam (30%), Reflection report (20%).
All assignments must be passed (grade > 6).

**Literatuur**
Is announced on Canvas one month before start of the course

**Doelgroep**
Optional course in the MSc specialization Science Communication

**Overige informatie**
Independence and a cooperative attitude is expected. Attendance to training workshops is mandatory.

Science Journalism
Doel vak
To acquire knowledge of and insight into:
- the concepts, models and issues of science journalism according to contemporary scientific literature
- the criteria for effective science journalism with respect to diverse media
- the representation of science in the media
- the role of science journalism in the use of scientific knowledge in society

To acquire skills in:
- writing popular scientific texts for different genres such as news, background and interview
- science reporting using videos
- designing science communication for different media such as newspaper, radio and internet

Orientation to the professional practice of science journalism

Inhoud vak
This course teaches the basic principles of science journalism. A series of interactive lectures reviews both the practical as well as the theoretical aspects of science journalism. Topics that are discussed are the translation of science to a language that is both compelling and understandable, the role of journalism in the interaction between science and society, images of science in the media and the ethics of science journalism. The interactive lectures invite you to take your own defendable position with regard to these issues.

Guest lectures provide insight into the professional practice of science journalists. The guest speakers work as freelancer, editor or producer at diverse science media, such as newspapers (NRC, Volkskrant), magazines (NWT), internet (Noorderlicht) and radio (Labyrint).

Finally, the course trains specific skills that you need as a science journalist, such as popular writing, popular science videos, interviewing, conceptual analysis and program design.

Onderwijsvorm
Lectures and seminars on theory and practice of science journalism and writing skill training (36h). Considerable time is set aside for performing science journalism in assignments (108h). The assignments are assessed by lecturers and fellow students (peer-review process). Self study (remaining hours).
**Toetsvorm**
Several individual assignments (60%), several small group assignments (40%). All assignments must be passed (grade > 6).

**Literatuur**
Announced on Canvas one month before start of the course

**Doelgroep**
All Master students with a Beta-Bachelor degree. Students taking this course as part of their C-specialisation within FALW or FEW will have precedence over other students. Students from other faculties and or universities need to get formal consent from the course coördinator (Frank Kupper) before enrolment.

**Overige informatie**
Course is taught in Dutch. More information: f.kupper@vu.nl.

### Science Museology

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**Doel vak**
- Analyze and understand the role of museum exhibits in the field of science communication.
- Analyze and understand the role of science communication concepts in the context of science museums.
- Synthesize theoretical notions of science communication and exhibit design into ideas for an exhibit experience and exhibit content.
- Create and conduct a qualitative user research method in science museum settings.
- Integrate the user research outcomes into the exhibit experience and exhibit content.
- Reflect on working for an external commissioner.

**Inhoud vak**
This course is about the role of science museums/centers, zoos and natural history museums in science communication. You will get familiar with theories of science communication in museum settings, and will be introduced to different styles of communication, different approaches to exhibit design & development, and different methods of research and evaluation of exhibitions.

Lecturers give insight into the role and work of (1) science communicators in museums and science centers, (2) researchers in the field of museology, and/or (3) professionals in informal science & technology learning environments.
Through individual and group assignments you are encouraged to combine theory and practice, working step-by-step towards an exhibit design. The group assignments are commissioned by museums and science centers, such as NEMO, Museon, Naturalis, Delft Science Centre, or Artis.

**Onderwijsvorm**
Lectures  
Workgroups  
Workshops  
Home-study for group assignments  
Home-study for individual assignments  
Field work

**Toetsvorm**
Group assignments (45%), final presentation (15%), and individual assessment(s) (40%). For all assignments and assessments a pass-grade must be obtained.

**Literatuur**
Academic articles. Direct links to articles will be provided on Canvas before the beginning of the course.

**Vereiste voorkennis**
It is possible to follow the course as an elective course outside of one of the science communication master specialisations of FALW/FEW. In that case, additional reading may be asked from students, depending on the student's educational background.

**Aanbevolen voorkennis**
We recommend to follow this course, at least, after having done the course Science & Communication. We ask non-SC students to read Van Dam, F., De Bakker, L, & Dijkstra, A.M. (2014). Wetenschapscommunicatie, een kennisbasis. Boom Lemma uitgevers. ISBN: 978-94-6236-424-0. Chapters: 1, 2, 3, 4, 5 en 6. For English introduction literature, please contact the teaching staff.

**Doelgroep**
Optional course in the Science Communication master specialisation of most of the two-year master programs of the FALW and FEW faculties. Master students from other universities in any scientific field are welcome as well. Additional reading may be required.

**Overige informatie**
Guest lectures from and excursions to for instance NEMO, Artis, Naturalis, NorthernLight, or Museon, etc.

**Scientific Writing in English (AM_MPA)**

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**Doel vak**
The aim of this course is to provide Master’s 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.

**Inhoud vak**
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

**Onderwijsvorm**
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 or Results section, Discussion and Abstract). Feedback on the writing assignments is given by the course teacher and by peers.

**Toetsvorm**

Students will receive the three course credits 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 a BSc thesis in a traditional thesis form (e.g., 20+ pages) and written in English, they may use this for the writing assignments.
2. If students have a BSc thesis in a traditional form (e.g., 20+ pages) written in another language than English, they may use this for the writing assignments.
3. 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.
4. If students are working on their MSc thesis or internship report when taking Scientific Writing in English, they may use this for the writing assignments. They will have to notify their supervisor to make sure that they won’t be accused of self-plagiarism.
5. If students cannot or do not wish to use any of the above-mentioned texts 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.

**Literatuur**


**Doelgroep**

This course is only open to students of the two-year Master's programmes of the Faculty of Earth and Life Sciences. These students are only eligible to the course if they have already conducted scientific research (e.g. for their Bachelor’s thesis) or if they will be working on a research project when taking Scientific Writing in English.
**Overige informatie**

- To do well, students are expected to attend all lessons. Group schedules are to be found at rooster.vu.nl and on Canvas.
- A VUnet registration for this course automatically gives access to the corresponding Canvas site. Group registration only takes place via Canvas (general groups: registration by students following FALW programmes offering this course; groups assigned to specific studies: registration through programme and course coordinator).
- Make sure Scientific Writing in English does not overlap with another course.
- If you have registered for a group in Canvas, you are expected to attend all sessions (eight). If you decide to withdraw from the course, do so in time in VUnet. This 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.
- For specific Canvas matters concerning this course, please contact canvas.beta@vu.nl.
- Full time students with their main registration at VU will be given preferential treatment for placement in this course. For secondary students proof of enrollment is not a guarantee of placement.

**Societal entrepreneurship in health and life sciences**

<table>
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<th>Vakcode</th>
<th>AM_470575 ()</th>
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<td>Credits</td>
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<td>Fac. der Aard- en Levenswetenschappen</td>
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<tr>
<td>Coördinator</td>
<td>L.H.M. van de Burgwal MSc</td>
</tr>
<tr>
<td>Examinator</td>
<td>prof. dr. H.J.H.M. Claassen</td>
</tr>
<tr>
<td>Docent(en)</td>
<td>prof. dr. H.J.H.M. Claassen, L.H.M. van de Burgwal MSc</td>
</tr>
<tr>
<td>Lesmethode(n)</td>
<td>Hoorcollege, Werkgroep</td>
</tr>
<tr>
<td>Niveau</td>
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</table>

**Doel vak**

This course focuses on societal aspects of entrepreneurship. During the course you will study the meaning of societal and responsible entrepreneurship in a concrete setting. In the course theoretical insights are combined with practical knowledge regarding business plans. Lecturers from Athena and experts from the field discuss various relevant topics, such as: in-depth insight into the elements of a business plan, different business model configurations, the role of societal impact, and elements of CSR. The course is relevant for a wide range of business cases in the health and life sciences, ranging from starting an NGO-like organization, to starting a strong business-driven life sciences corporation.

This course is thus intended for students that have truly considered becoming entrepreneurs themselves. To this end, we specifically encourage students to formulate a business case (as a group of 3 students) before registering for this course.

**Learning objectives**

- Understand the relevance of entrepreneurship and innovation for
science disciplines.
- Explain the importance of valorisation of findings from the health and
  life sciences and business ideas for a knowledge-based economy.
- Outline the financial, social and ecological aspects (sustainable
  entrepreneurship) of value-adding opportunities.
- Recognize and design opportunities that create economic and social
  value
- Understand the nature and role of networks in value creation
- Recognize and understand different entrepreneurial processes
- Construct a business plan on how to bring an innovation to the market.

**Inhoud vak**
This course consists of both a theoretical and a practical component.
Both components run simultaneously so that the theoretical knowledge can
be applied to the development of the business plan. In the theoretical
component you learn about societal entrepreneurship. We address
questions such as: What is entrepreneurship? What are societal
entrepreneurs? What is the role of innovation in entrepreneurship? What
is corporate social responsibility (CSR)? How can we judge the
feasibility of entrepreneurial ambitions?

The practical comment focuses on creating a business plan based on a
real-life business case. Based on the Business Model Canvas (Osterwalder
& Pigneur, 2010) you develop a business plan covering aspects such as
value propositions, key activities, key partners, customer segments,
cost structure, and revenue streams. In setting up this business plan,
societal aspects of entrepreneurship should play a key role. A jury of
financers judges the business plans on creativity and feasibility.

**Onderwijsvorm**
Lectures and workshops are key elements of this course. Each week
several lectures are given. These lectures provide key knowledge for
both the exam and the business plan. Additionally, each week students
have workshops in which specific parts of the business plan are further
developed. Attending the workshops is compulsory.

Schedule and study time
The total study time is 160 hours. The following hours are contact
hours:
- Lectures: 42 hours
- Workshops: 14 hours
- Exam: 3 hours
- Writing business plan: 70 hours
- Self-study for remaining hours

**Toetsvorm**
Both the exam and the business plan determine 50% of the grade each. The
exam and business plan must be of sufficient quality to pass the course.

**Literatuur**
Business Model Generation (Osteralder & Pigneur, 2010)

**Vereiste voorkennis**
Proven knowledge of business aspects in the Health and Life Sciences is
required (e.g. by having passed the Business Management course).

**Doelgroep**
Optional course for Master students Management, Policy Analysis and
Entrepreneurship in Health and Life sciences (MPA), M-differentiation of
the Health, Life & Natural Sciences, Biology, Biomedical Sciences.

**Intekenprocedure**

VU-net registration will close 4 weeks before the start of the course. Students are strongly encouraged to formulate their own health & life sciences related business case to work on. Alternatively, we can arrange for a limited number of real-life business cases to work on.

**Overige informatie**

Attendance to lectures and working groups is compulsory. Prior knowledge: Business Management in Health and Life sciences.

**Thesis MPA**

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<td>Faculteit</td>
<td>Fac. der Aard- en Levenswetenschappen</td>
</tr>
<tr>
<td>Coördinator</td>
<td>A. van Luijn MSc</td>
</tr>
<tr>
<td>Examinator</td>
<td>A. van Luijn MSc</td>
</tr>
<tr>
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<td>600</td>
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**Doel vak**

To further improve analytic and reflective skills and deepen your knowledge on a topic in your specialisation. Depending on your specialisation this will be in the field of Management and Entrepreneurship in the Health and Life Sciences, Policy in the Health and Life Sciences, Communication in the Health and Life Sciences or International Public Health.

**Inhoud vak**

The thesis is a compulsory part of the Master Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences. Writing a thesis provides the student with the opportunity to learn how to gather and analyze scientific literature.

**Onderwijsvorm**

Desk research

**Toetsvorm**

Written thesis and oral presentation (both need to be sufficient). The thesis will be written under direct supervision of VU-staff.

**Doelgroep**

Students in the second year of the MSc Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences.

**Overige informatie**

Students can choose their own topic or apply for a topic from a lecturer from the Athena Institute. Information on Master thesis and application for thesis topics is made available on Canvas and there is an Canvas site for Literature thesis Athena.

**Thesis MPA specialization Communication in the Health and Life Sciences**
Doel vak
To further improve analytic and reflective skills and deepen your knowledge on a topic in your specialisation. Depending on your specialisation this will be in the field of Management and Entrepreneurship in the Health and Life Sciences, Policy in the Health and Life Sciences, Communication in the Health and Life Sciences or International Public Health.

Inhoud vak
The thesis is a compulsory part of the Master Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences. Writing a thesis provides the student with the opportunity to learn how to gather and analyze scientific literature.

Onderwijsvorm
Desk research

Toetsvorm
Written thesis and oral presentation.
The thesis will be written under direct supervision of VU-staff.

Doelgroep
Students in the second year of the MSc Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences.

Overige informatie
Students can choose their own topic or apply for a topic from a lecturer from the Athena Institute. Information on Master thesis and application for thesis topics is made available on Canvas.

Thesis MPA specialization Health and Life Science-Based Policy

Vakcode | AM_1129 ()
---|---
Periode | Ac. Jaar (september)
Credits | 12.0
Voertaal | Engels
Faculteit | Fac. der Aard- en Levenswetenschappen
Coördinator | dr. J.F.H. Kupper
Examinator | dr. J.F.H. Kupper
Niveau | 600

Doel vak
To further improve analytic and reflective skills and deepen your knowledge on a topic in your specialisation.
Depending on your specialisation this will be in the field of Management and Entrepreneurship in the Health and Life Sciences, Policy in the Health and Life Sciences, Communication in the Health and Life Sciences or International Public Health.

**Inhoud vak**
The thesis is a compulsory part of the Master Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences.

Writing a thesis provides the student with the opportunity to improve her/ his skills in gathering and analyzing scientific literature.

**Onderwijsvorm**
Desk research

**Toetsvorm**
Written thesis and oral presentation. In general, the thesis will be written under direct supervision of VU-staff. In this case, the VU-staff is responsible for assessing the thesis. For external literature studies, an external supervisor will assess the thesis and propose a grade. A VU-staff member will still be accountable for the thesis assessment.

**Doelgroep**
Students in the second year of the MSc Management, Policy analysis and Entrepreneurship in the Health and Life Sciences.

**Overige informatie**
Students can choose their own topic or apply for a topic suggested by a lecturer from the Athena Institute. Information on Master thesis and application for thesis topics is made available on Canvas.

**Thesis MPA specialization International Public Health**

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<td>dr. D.R. Essink</td>
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**Doel vak**
To further improve analytic and reflective skills and deepen your knowledge on a topic in your specialisation. Depending on your specialisation this will be in the field of Management and Entrepreneurship in the Health and Life Sciences, Policy in the Health and Life Sciences, Communication in the Health and Life Sciences or International Public Health.

**Inhoud vak**
The thesis is a compulsory part of the Master Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences.

Writing a thesis provides the student with the opportunity to learn how
to gather and analyze scientific literature.

**Onderwijsvorm**
Desk research

**Toetsvorm**
Written thesis and oral presentation.
The thesis will be written under direct supervision of VU-staff.

**Doelgroep**
Students in the second year of the MSc Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences.

**Overige informatie**
Students can choose their own topic or apply for a topic from a lecturer from the Athena Institute. Information on Master thesis and application for thesis topics is made available on Canvas.

**Thesis MPA specialization Management and Entrepreneurship**

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**Doel vak**
To further improve analytic and reflective skills and deepen your knowledge on a topic in your specialisation. Depending on your specialisation this will be in the field of Management and Entrepreneurship in the Health and Life Sciences.

**Inhoud vak**
The thesis is a compulsory part of the Master Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences. Writing a thesis provides the student with the opportunity to learn how to gather, analyze and summarize scientific literature.

**Onderwijsvorm**
Desk research

**Toetsvorm**
Written thesis and oral presentation.
In general, the thesis will be written under direct supervision of VU-staff. In this case, the VU-staff is responsible for assessing the thesis. For external literature studies, an external supervisor will assess the thesis and propose a grade. A VU-staff will still be accountable for the thesis assessment.

**Doelgroep**
Students in the second year of the MSc Management, Policy-analysis and Entrepreneurship in the Health and Life Sciences.
**Overige informatie**

Students can choose their own topic or apply for a topic from a lecturer from the Athena Institute. Information on Master thesis and application for thesis topics is made available on Canvas.