



UNIVERCITY  
ACTION LAB

The Netherlands

## Good Practice Case Study

MPA Masters

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## PROJECT PARTNERS



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## GENERAL INFORMATION

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**Title of the case** Master in Management, Policy Analysis and Entrepreneurship  
In Health & Life Sciences

**Sales pitch** Science for solving society's complex problems

**Organisations** • Vrije Universiteit Amsterdam

**Country** Netherlands

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**Nature of interaction** Master program

**Level of mechanism**

- Government policy (e.g. law, funding framework)
- Organisational strategy (e.g. university/business/agency)
- Structural element (e.g. centre, lab, office)
- Operational level (e.g. activity or programme)

**Length of programme**

Entire degree – 2 years	Formality	Formal
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**Curricula-bound,  
co or extra-  
curricular?**

Curricula	Level of initiative	Cross-disciplinary
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## Summary

The Master Program in Management, Policy Analysis and Entrepreneurship in Health & Life Sciences (further MPA) is a two-year interdisciplinary programme taught at VU University in Amsterdam. MPA students are required to study 120 ECTS. Like many other Master programmes, it also requires students to undertake internships and submit a Master thesis upon the programme completion. MPA seeks to instill multi-perspective thinking into a new generation of researchers, policy makers and entrepreneurs who are willing to pursue their careers in the field of health and life sciences. The programme hosts around 110 students every year, and the courses are taught in English.



## CASE STUDY PROFILE

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### BACKGROUND

The 'Master Program in Management, Policy Analysis and Entrepreneurship in Health & Life Sciences' (MPA) was initiated in September 2002 by the 'Biology and Society' Department of the faculty Earth and Life Sciences. At the time, there was a strong scene in data science studies in the fields of Biology, Chemistry, Biochemistry, Biomedical sciences, but they were mostly working in silos. On the other hand, the need for interdisciplinary studies from the market was clear. The programme aims to provide students with the knowledge, attitudes and skills to enable them to analyse complex social issues, formulate and implement strategies to deal with these complex issues, and to effectively cooperate and communicate with both societal actors and researchers from different scientific disciplines.

### CONTEXT

MPA is taught at the Athena Institute, Faculty of Science, VU University Amsterdam, Athena's research focuses on the interface between science and technology (in the field of health and life sciences) and society. Athena's mission is to realise excellence in transdisciplinary research on innovation and communication in the health and life sciences, with a specific focus on processes of social inclusion and diversity. Athena focuses on science and technology developments that are specifically – but not exclusively – related to health and life sciences. Specific fields of our research are: education, neurosciences, nanotechnology, synthetic biology, artificial intelligence and big data, as well as mental health, maternal health, sustainability, food systems, rural development, and global health.

Athena's **mission** is to scientifically study and design interfaces between science and society, with the **aim** to (i) increase academic and societal understanding of key factors in innovation processes; (ii) enrich science with increased societal legitimacy and improved research utilization; and (iii) improve societal awareness of how innovations may benefit the sustainability, equity and fairness of societies [4].

## OBJECTIVES AND MOTIVATIONS

The reason behind the development of MPA is in the complexity of societal problems that also require complex solutions with an application of rigorous scientific principles. Such solutions have to be based on the integrated knowledge from numerous scientific disciplines and cooperation between a wide variety of stakeholders in society – starting from the government, industry and societal organizations to ultimate consumers. The goal of MPA is thus 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 [2]. In the MPA programme, the following key 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 through interdisciplinary research
- Effective cooperation and communication skills with researchers from cognate or semi-cognate scientific disciplines, along with various stakeholders

## STAKEHOLDERS

The stakeholders of the programme can be listed as follows:

- Industry and the public organisations as direct partners: The MPA programme has built a large network within the ecosystem via forming partnerships with a number of organisations, including (Amsterdam) Municipality, Ministry, and NGOs as internship hosts. These organisations accommodate students and support the research conducted as part of the studies.
- Faculty as course providers, facilitators and knowledge brokers among the stakeholders of the programme
- Students as the direct beneficiaries, and alumni as indirect beneficiaries and contributors to the programme development

## PROCESS

### INPUT

**Human resources:** Teaching staff mainly comes from the Vrije Universiteit Amsterdam; however, guest lecturers and external supervisors are occasionally invited to get involved in the

activities. 30-40 courses are offered from which MPA students can choose, with some courses that are also open to non-MPA students. The MPA programme has one director and a coordinator at the programme level, as well as an internship coordinator, and different coordinators for the specializations and courses. Almost every course consists of both a theoretical and a practical component. In the practical component, students often work in groups, which are coached by junior staff. Professors and lecturers deliver the lectures.

**Financial resources:** The MPA programme is largely funded by the domestic and international student fees that are complemented by funding from the government.

In the practical components of the courses, MPA students address selected questions of various stakeholders, including those from NGOs, GPs, and Municipality. The students are supervised and supported by assigned supervisors. The questions are received via the Athena Science Shop. There are no costs involved. These small studies can be used as pathways for preparations for larger projects, and funding applications.

## ACTIVITIES

The Master programme comprises the following components:

- Compulsory courses
- Electives (linked to specialization)
- Science courses
- Two internships (of which one is the final thesis)

The study programme tracks: In total, students are expected to complete 120 ECTS within 2 years (60 credits each year). Students can choose one of the following five specializations:

1. Health & Life Sciences-based Management and Entrepreneurship: This specialization aims to provide the MPA graduate with insight in the management process of translating scientific knowledge from health and life sciences to societally relevant innovations. Relevant theories on management, organizations, policy making, innovation, leadership and finance are discussed. Students that choose this specialization aim to further a career in a pharmaceutical company (e.g. as a clinical research assistant or advisor) or for setting up their own business.
2. Health & Life Sciences-based Policy: This specialization equips the MPA 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 in particular interactive policy-making are discussed. In addition, the student acquires skills in data collection methods: from various written and digital sources to interviews to focus group sessions. At the end, the student is independently able to facilitate group processes for interactive policy-making and apply various analytical tools to structure the multidisciplinary data towards strategically designed advice.
3. Communication in Health & Life Sciences: Communication about science issues takes place not only between peers but also between scientists and 'end users' and 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 MPA graduate with this specialization has 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.

4. International Public Health: The MPA graduate with a specialization in international public health has a wide-ranging insight in current and future challenges in international public health, their main causes, as well as applied and potential interventions. The Master's graduate obtains special knowledge on relevant concepts from various disciplines (including epidemiology, policy science, anthropology, management studies, biomedical sciences and health sciences). The Master's graduate has the ability to conduct scientific research in the field of international public health addressing international public health challenges and critically assessing the results of international public health research. He/she possesses knowledge of current theories and the key research questions in this field, and has insight into the scientific and social relevance of this subject.
5. Community-based Health Technologies: The MPA 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.

MPA starts with three compulsory courses in which students obtain the core competences of the programme. In the first course, 'Research Methods for Analysing Complex Problems', students conduct a problem analysis within their interdisciplinary research field and they are trained in qualitative and quantitative research methods. In the second course, 'Analysis of Governmental Policies', students work on a real, complex societal problem related to the health and life sciences and write a policy advisory report for the commissioning organisation. The third course, 'Communication, Organization and Management' aims to provide students with a deeper understanding of the management process for translating scientific knowledge to solve complex societal problems.

Following this, students concentrate on choosing relevant electives, and later on internship(s) in line with the specialization.

Internship: Two compulsory internships are scheduled for each year of the Master's programme. The purpose of the two internships is to get students exposed to work experiences in multi-stakeholder organisations and they learn to apply the core elements of the programme in a real-world setting. During the first internship, students are engaged in an individual research internship on a complex societal problem. For the second internship students apply the acquired competences to a research project on a higher level of complexity, with regard to the studied issue and use of methodology, and exercise greater independence in the conduct of the research compared to the first internship. The second internship can be abroad.

Employability: Incorporated into the curriculum, there is science and a career trajectory in which students are trained to define skills and competences acquired during the programme and to identify how these can benefit an organisation. Thus, they are prepared for the internships and the labour market. The programme has organised 5 science and career events so far, with the

last event hosting a seminar along with poster presentations, and organizations (potential employers) invited to interact with the students. The elements supporting employability have been integrated into the curriculum upon the feedback received by a large-scale survey conducted with the alumni.

Science Plus trajectory: Science plus students are offered additional challenges and activities, such as attendance at departmental seminar, discussion with prominent contracts of the department, and attendance to PhD defences. This is an opportunity for those students who would like to get more out of their master's by giving them the opportunity to become more acquainted with work and research at a university.

Internationalisation: The programme offers students an international component within MPA. The programme has a partnership with the Madras Institute of Technology (MIT) in India, where the students of the MPA programme - mostly from the international public health track - have the opportunity to take some of the courses in the partner locations within an exchange scheme. In addition, international guest speakers are invited throughout the courses to Amsterdam, and lecturers use their international projects (e.g. Horizon 2020,WHO) as case studies in education.



## OUTCOMES AND IMPACT

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### OUTPUTS

Number of graduates: The table below presents the total number of students who graduated, and specifies whether they graduated in 2 or 3 years. Results are presented in absolute numbers and in percentage of the total. In 2015-2016 approximately 7% of the students graduated with the judicum Cum Laude, and for 2016-2017 this was 8,2%. The majority of the internships are considered to have high social relevance. Furthermore, a number of students choose to write a research article based on their second internship.

Exam year	Total	Graduated within 2 years		Graduated within 3 years	
	Graduated	(absolute)	(% of total - cumulative)	(absolute)	(% of total - cumulative)
2012	62	22	35,%	56	90,%
2013	59	16	27,%	48	81,%
2014	71	24	34,%	56	79,%
2015	99	36	36,%	83	84,%
2016	85	30	35,%	76	89,%

## IMPACTS

The programme has a strong impact on the employability of its students, which also contributes to the fostering of innovation in the regional health sector. According to the MPA programme representatives, 95% of the students find employment within the first year of graduation. The professional field strongly appreciates with the quality of MPA students and graduates. Students find their way into the job market, and of the last two cohorts of students (n=189), only six alumni do not have a formal position.

The teaching is strongly intertwined with cutting-edge research taking place within Athena's research programme. The explicit choice to link a part of the educational programme directly and structurally to current cutting-edge and high-quality research at Athena enables a real-life, problem-driven, inquiry-based learning environment in which scientific research and social impact are simultaneously pursued. Moreover, the teaching staff have interdisciplinary capabilities, and the strong team of lecturers is committed not only to providing a high quality programme, but also to improving the programme on a continuous basis.

## SUPPORTING ENVIRONMENT & SYSTEM

### SUPPORTING MECHANISMS

The enabling nature of the local policies, fostering collaborative innovation, and consideration of the innovation in health sciences as a priority, coupled with the institutional culture that fosters interdisciplinary research, can be considered as two major supporting mechanisms for the successful implementation of the programme.

Evaluation of the programme includes components initiated by the programme and by the faculty/institution. Student evaluation on programme content and structure takes place every academic year. Teaching staff write feedback on the topics brought up in the student evaluation, and share with the students the actions that are taken, upon the feedback provided in the previous years. In addition, the 'Program Committee' that consists of staff members and students work as an external board of members, evaluating different aspects of the MPA programme, and confirming the changes that are planned to be made. There are audits performed by the university, and once in every six years by an external accreditation agency. Programme staff also write self-assessment reports as part of the evaluation process.

The programme values the feedback loop and continuous input from the students and staff as stakeholders for the improvement of the programme and institutionalisation of the processes. The programme is well embedded into the institutional structures with shared resources and committed partnerships with external stakeholders.

### BARRIERS AND DRIVERS

One of the major drivers of the programme is the continuous demand from the local stakeholders for a qualified workforce who are well informed about the current health

challenges of the society, and educated in an interdisciplinary model of education that will allow them to work with a number of stakeholders in a collaborative work environment. This demand from both policy and practice communities allow the programme to build a network of its own, made up of key stakeholders, that help embed the programme and its graduates into the present ecosystem.



## LESSONS LEARNED

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### CHALLENGES

The challenges can be discussed as programme and institutional challenges. Concerning the former, there are two ongoing discussions within the programme regarding any type of change that might be necessary in the two rounds of internship structure, and the workload that comes with the research paper and thesis writing process. Another challenge is regarding the accommodation of the diverse student profile of the MPA programme, e.g. in supporting international students finding local and international organisations for their internships.

### KEY SUCCESS FACTORS

The programme is successful in broadening the outlook of students and facilitating their development into multi-stakeholder problem-solvers in order to address complex societal issues. After the programme, students have the knowledge, attitudes and skills to analyse complex societal issues, formulate and implement strategies to deal with them, and to effectively cooperate and communicate both with societal actors and with researchers from different disciplines. Another important element for success is the structure of the MPA programme that combines classroom learning with two practical experiences via internships that allow plenty of opportunities for the students to grow, and integrate into the professional network. Over the years, MPA established itself as a robust and mature programme; it has a sustainable number of students; it fulfills the expectations and learning requirements; the teaching team is well established and highly motivated and the prospect for graduates is very promising. Students indicate that the programme is open and responsive, and the contact between students and teachers is good.



## FURTHER INFORMATION

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### AWARDS AND RECOGNITION

MPA was assessed as 'Good' by the Dutch-Flemish Accreditation organization (NVAO) [3]. The MPA programme excels in developing, implementing and evaluating innovative teaching methods for inquiry-based learning and interaction between science and society. This is recognized *within the university*, as can be seen from the VU innovation prize (50.000 euro) won by the teaching team. It is recognized *nationally*, as shown by the first Comenius Teaching Scholarship (50.000 euro) granted to the team in 2017. These scholarships were granted by the Netherlands Initiative for Education Research. International recognition of teaching quality is evidenced by the international publications developed by the teaching team as well as the prize for the best paper during the Higher Education and Teaching and Learning conference in Alaska in 2014.

### TRANSFERABILITY

The MPA programme can be transferrable in other contexts. However, there are a few unique organisational and cultural elements that should be taken into consideration in the case of a replication.

The fact that the MPA is based in VU Amsterdam, an organisation that values diversity, inclusion, and relevance to societal problems as core values contributes considerably in attracting students, as well as organisations for committed partners of the programme. Besides this, the city of Amsterdam and its rich and well-connected ecosystem of key organisations in the field, as well as the diversity of the population, makes it an interesting element for the success of the programme.

In that, the open and democratic culture of the country and its reflection in the collaborative practice of science have had a positive impact in the quality of the curriculum, due to the involvement of a number of societal stakeholders, and establishment of long-term relationships. The tolerance culture of the city of Amsterdam, and the Netherlands in general, also allows tackling many controversial topics, including e.g. drug policies, and LGBTQ related topics.

### PUBLICATIONS

Inquiry-Based Learning in Action: Reflections on an Interdisciplinary Master's Program in the Health and Life Sciences (2015)

[https://www.researchgate.net/publication/283256170\\_Inquiry-Based\\_Learning\\_in\\_Action\\_Reflections\\_on\\_an\\_Interdisciplinary](https://www.researchgate.net/publication/283256170_Inquiry-Based_Learning_in_Action_Reflections_on_an_Interdisciplinary)

## LINKS

Official MPA program page

<https://masters.vu.nl/en/programmes/management-policy-analysis-entrepreneurship-health-life-sciences/Index.aspx>

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