



MSc. Geographical Information Management and Applications
Utrecht University, Delft University of Technology, Wageningen
University, University of Twente (joint degree)

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Summary

On 18, 19 and 20 June 2025, an independent peer review panel assessed the joint master's programme Geographical Information Management and Applications (GIMA) of Utrecht University, Delft University of Technology, Wageningen University and University of Twente. This external assessment was part of the cluster assessment WO Sociale Geografie en Planologie (Human Geography and Planning) and took place at the Faculty of Geosciences of Utrecht University, the location of the coordinating partner. The panel established that the joint programme meets the NVAO standards intended learning outcomes, student assessment, and achieved learning outcomes, while it partly meets the NVAO standard teaching-learning environment. Its final judgement on the quality of the joint MSc GIMA is therefore **conditionally positive**.

Standard 1. Intended learning outcomes

The MSc GIMA has a clear and outspoken profile. The long-standing - and now joint - degree takes up a specific position in the higher education landscape through its size, its set-up, its focus on geo-information management and application, and its blended education format. The programme set-up with four institutes allows students to experience concepts and views on the geo-information field beyond what is possible in programmes provided by one single university. The GIMA learning outcomes are adequately formulated and reflect the substance, level and orientation of the programme. Moreover, the end qualifications befit the programme profile and cover both the scientific and professional requirements of the domain. The panel appreciates the connection with the professional field in terms of curriculum delivery, while the GIMA Labour Committee is monitoring the continued relevance of the programme.

As a point for urgent attention, the panel advises the joint programme to update the intended learning outcomes in such a way that they do justice to the diversity, breadth and unique expertise of the four participating universities. This is all the more relevant since the transition to a joint degree programme.

Standard 2. Teaching-learning environment

The foundational building blocks underlying the set-up of the teaching and learning environment are adequate, an appreciation that applies to the curriculum, the learning environment and the disciplinary expertise of the teaching staff. The panel endorses the English name of the programme, as well as the decision to offer the joint MSc GIMA in English. The international dimension clearly enriches the teaching and learning environment for both Dutch and non-Dutch students. The curriculum set-up is logical and the topics covered in the modules are relevant. The fact that GIMA can rely on a wide range of teaching staff from four partner universities is a particular asset and ensures that the entire disciplinary breadth of the programme is offered. The choice for a blended learning format is well thought through and constitutes an important selling proposition for students. Nonetheless, the combination of limited in-person contact moments and extensive on-line and individual work is challenging for increasingly diverse student cohorts. Hence, the panel's suggestion to analyse student data for patterns and correlations between student intake, background, drop-out and success rate.

Furthermore, the panel identified several weaknesses in the way the curriculum and its assessment are delivered: (i) flaws in the quality of course materials and the responsiveness of teaching staff; (ii) poor communication among and between management, staff and students; (iii) limited vision on the current programme and the future developments in the discipline; and (iv) ineffective governance among partner institutions resulting in a lack of ownership. The panel considers that GIMA management needs to take urgent and systematic action to address these flaws, which have been mentioned by students and were reported by the Programme Committee and the Director of Education.

Standard 3. Student assessment

The joint MSc GIMA can rely on an adequate system of assessment that is embedded in long-standing policies and practices of the Faculty of Geosciences at Utrecht University. The operationalization of the assessment principles at course level reflects the profile and objectives of the GIMA programme, while the assessment plan safeguards that course learning objectives are assessed adequately and cover the programme learning outcomes. Courses include a good mixture of individual and group assignments, written exams, and formative and summative evaluations. The GIMA thesis assessment is organised in different steps and contains in-built provisions for an independent judgement of the report quality. The panel's thesis review demonstrated that the evaluation form is relevant and that the grading by the programme assessors is in line with their own appraisal. The quality assurance system for assessment is both comprehensive and effective, and members of the Central Exam Committee, the SGPL Chamber and the faculty-wide Assessment Committee should be commended for their expertise and commitment.

As a point for attention in the future, the panel suggests to monitor and ensure that all thesis assessment forms are completed in an insightful way, because the thesis review demonstrated that often the forms did not contain sufficient informative feedback.

Standard 4. Achieved learning outcomes

The intended learning outcomes of the GIMA programme are assessed and demonstrated in a systematic way. The thesis review showed that the theses are overall of good quality and that every GIMA thesis definitely deserved to pass. It is fair to conclude that GIMA students who successfully pass the thesis have effectively achieved the programme learning outcomes. Furthermore, GIMA graduates are well prepared during their study for a follow-up career. The programme does not only offer quality disciplinary content, but also requires students to be motivated and disciplined, have an independent work attitude while also being open to teamwork, and have a good capacity for self-organisation. The blended character of the programme prepares students not only for the contents of a job, but also provides them the necessary professional skills to stand out on the labour market.

Parttime variant

The joint MSc GIMA is offered in a fulltime and a parttime variant, with only a small number of students spreading the curriculum over four years. The panel established that its considerations on each of the four NVAO standards apply equally to both variants. During the previous accreditation round, it was suggested to develop an explicit strategy to attract more parttime students. The current panel, however, was informed that companies are putting more pressure on employees, which makes it tough for professionals to combine the GIMA programme with their job. Moreover, national authorities changed the study policy by increasing the tuition fee for professionals/students who want to pursue a second master study. Nonetheless, three to four mid-career professionals enter the programme every year.

Conditions

The panel established that the GIMA programme partly meets the NVAO standard teaching-learning environment. The panel is confident that the identified shortcomings can be remedied within two years through a dedicated repair trajectory that consists of producing and implementing a quality assurance plan, a communication plan, a vision document, and a detailed cooperation agreement. Hence, the panel puts the following conditions to the GIMA programme:

- To produce a quality assurance plan that addresses the current flaws in course delivery (such as quality of the materials and teaching staff responsiveness).

- To produce a communication plan stipulating how the internal communication among the institutional partners, the programme board, the programme coordinator and the teaching staff will be designed in the future and be operationally effective.
- To develop a shared vision on both current programme features and the integration in the curriculum of forthcoming disciplinary developments. The resulting vision document should advocate for the programme choices made until now, and stipulate how developments in the discipline are/will be addressed in the learning materials, the course learning objectives, and the programme learning outcomes.
- To produce a detailed cooperation agreement that contains clear and unambiguous provisions regarding the governance and coordination of the joint programme, as well as the ownership of, and the final responsibility for, the programme.

At the end of the repair trajectory, the panel will judge the quality of the four deliverables on the basis of their operational effectiveness.

Score table

The panel assesses the *Master's programme Geographical Information Management and Applications* as follows:

Standard 1: Intended learning outcomes	meets the standard
Standard 2: Teaching-learning environment	partly meets the standard
Standard 3: Student assessment	meets the standard
Standard 4: Achieved learning outcomes	meets the standard
General conclusion	conditionally positive

On behalf of the peer review panel,

Prof. dr. F.J.A. (Frank) Witlox,
panel chair

M. (Mark) Delmartino
panel secretary

Date: 12 September 2025

Introduction

Procedure

Assessment

On 18, 19 and 20 June 2025, the master's programme Geographical Information Management and Applications of Utrecht University, Delft University of Technology, Wageningen University and University of Twente was assessed by an independent peer review panel as part of the cluster assessment WO Sociale Geografie en Planologie (Human Geography and Planning). During these days, the panel also assessed four single degree programmes offered by the University of Utrecht, which will be addressed in a separate report.

The assessment follows the procedure and standards of the NVAO Assessment Framework for the Higher Education Accreditation System of the Netherlands (April 2024). For the joint degree, the Protocol Joint Degree (2021) of the NVAO was applicable. On request of the cluster partners - Radboud University, University of Amsterdam, University of Groningen and Utrecht University - quality assurance agency Academion coordinated the external assessment of all programmes at all institutions. Peter Hildering coordinated the entire assignment on behalf of Academion, while Mark Delmartino acted as panel secretary for the programme assessments in Utrecht. Both coordinator and secretary are certified and registered by the NVAO.

Panel composition

Academion composed the peer review panel in cooperation with the institutions, taking into account the expertise and independence of the respective members. To strengthen consistency between the assessment panels in the cluster, the coordinator ensured joint instruction for the panel members, a comparable assessment method for all site visits, and a common approach during the respective concluding panel meetings on site. Moreover, the panel composition was such that per visit at least three panel members participated also in another assessment panel in the cluster. On 4 February 2025, the NVAO approved the composition of the panel.

The coordinator instructed the panel chairs on their role in the site visit according to the Panel chair profile (NVAO 2016) on 3 September 2024. Moreover, a common introductory briefing was held on 10 January 2025 for all panel members in the cluster. At this online meeting, the coordinator informed the panels on the assessment framework, the working method and the planning of the site visits and reports.

Preparation

The site visit took place in Utrecht, the location of the coordinating partner in the joint degree and the responsible institution at the time the programme was still a single degree (2021 and earlier). On request of the faculty management at UU, it was agreed that the assessment visit would take a development-oriented approach. Hence, the accreditation team at UU complemented the "visitation dossier" outlining the key elements of the joint programme with a portfolio of programme-specific materials. The materials put at disposition of the panel have been listed in appendix 4.

As part of its external assessment, the panel reviewed a sample of graduation projects. In the run-up to the site visit, the accreditation team provided the panel secretary with lists of GIMA students who graduated in the academic years 2022-2023 and 2023-2024. The panel chair then selected 15 theses, taking into account the diversity of final scores and the variety of thesis supervisors. The sample included 1 thesis from a part-time student, which reflects the share of the part-time variant (below 5%) in the overall programme.

The panel members studied the programme information, reviewed the thesis selection and sent their first observations to the secretary, who compiled the input. This compilation served as a basis for the preparatory online meeting on 13 June 2025, when the panel identified the key strengths, challenges and questions of the joint programme. On behalf of the panel, the secretary reported the main outcomes of this meeting to the UU accreditation team on 16 June.

An Open Consultation Hour for students, teaching and support staff involved in the GIMA programme was scheduled alongside the panel's preparatory meeting. Two people used this opportunity to discuss individually and confidentially with the panel.

In view of the development-oriented character of the assessment, the development dialogue was integrated in the set-up of the site visit programme through three thematic sessions for all five programmes under review. The development related components of these sessions have been captured in a separate report.

Site visit

The accreditation team at UU composed a site visit schedule in consultation with the coordinator and the panel secretary (see appendix 3). The GIMA programme selected representative partners for the various interviews, ensuring that the panel could speak to staff and management representatives from each of the four partner institutions. On the first and the third day, the panel discussed its findings on the GIMA programme in an internal meeting and shared its preliminary findings with the programme management. At the end of the three-day visit, the chair presented the considerations and conclusions of the panel in a public session to all programme representatives.

Report

The secretary wrote a draft report based on the panel's findings and submitted it to the coordinator for peer assessment. Subsequently, the secretary sent the report to the panel for feedback. After processing this feedback, the draft report was submitted to the accreditation team at UU for a check on factual inaccuracies. The secretary discussed the ensuing comments with the panel chair and changes were implemented accordingly. The panel then finalized the report, and the coordinator sent it to the Faculty of Geosciences and Utrecht University, TU Delft, Wageningen University, and the University of Twente.

Panel

The panel assessing the joint MSc Geographical Information Management and Applications consisted of the following members:

- Prof. dr. F.J.A. (Frank) Witlox, professor in Economic Geography at Ghent University (Belgium) [chair];
- Dr. M.(Melika) Levelt, senior lecturer and researcher in Logistics at the Faculty of Technology of the Amsterdam University of Applied Sciences;
- Prof. dr. J. (Jaap) Boter, associate professor in Marketing at the School of Business and Economics of Vrije Universiteit Amsterdam and special chair Book Trade of the Koninklijke Boekverkoopersbond at the University of Amsterdam;
- Dr. R.B.C. (Roy) Huijsmans, associate professor in Childhood & Youth Studies at the International Institute of Social Studies of the Erasmus University Rotterdam;
- Dr. W. (Willem) Buunk, managing consultant for the physical environment at Berenschot;
- M. (Maayke) Bouwhuis, bachelor's student Geography, Spatial Planning and Environment at the Radboud University [student member].

Each panel member, the panel secretary and the programme have filled out the Statement of Impartiality and non-disclosure agreement, as required by the NVAO. They can confirm that the assessment was carried out in complete independence.

Information on the programme

Name of the institution:	Utrecht University
BRIN-number:	21PD
Status of the institution:	Publicly funded institution
Result institutional quality assurance assessment:	Positive
Programme name:	M Geographical Information Management and Applications
ISAT number:	60732
Orientation of the programme:	academic
Level of the programme:	Master (NLQF7)
Number of credits:	120 EC
Language of instruction:	English
Specializations or tracks:	-
Locations:	Utrecht, Enschede, Wageningen, Delft
Mode(s) of study:	Fulltime, parttime
Awarded degree:	MSc.
Joint programme:	Joint degree of Utrecht University, TU Delft, Wageningen University and University of Twente
Submission date NVAO:	1 November 2025

Description of the assessment

Organization

The MSc Geographical Information Management and Applications (GIMA) is offered since 2003 by four Dutch higher education institutions: University of Utrecht, Wageningen University, University of Twente, and Delft University of Technology. The MSc GIMA is offered in a blended format, which means that during the first part students attend four on-campus periods of two weeks, one in each partner location, and devote the remainder of the time to remote learning. In the second part, they write their thesis and do an internship. Until recently, the programme was offered as a single degree by Utrecht University with agreed input from the three other institutions. Following the previous accreditation round in which GIMA obtained reaccreditation as a single degree, the NVAO agreed that the programme would switch to a joint degree as of September 2023.

The provisions for the organization of the MSc GIMA as a joint degree were laid down in the *Gezamenlijke Regeling (cooperation agreement)*, which was signed by the four University Boards and took effect on 1 September 2023. According to this agreement, the four partners are jointly responsible for the legal duties concerning the programme, and mandate Utrecht University to act as coordinating institution (penvoerder) of the GIMA programme. The programme board consists of four professors, one per partner, who are within their institution responsible for the education delivered in the programme. The chair of this GIMA Board rotates every four years between the partners. Further to the Board's proposal, the GIMA programme director is formally appointed by the dean of Geosciences of Utrecht University. The director's position also rotates among the partners for a period of four years.

The MSc GIMA is offered within the Graduate School of Geosciences at Utrecht University. The programme's assessment quality is safeguarded by the Central Exam Committee of the UU Faculty of Geosciences. The GIMA programme resorts under the SGPL Chamber of this committee: at all times one GIMA programme representative (currently from WUR) is member of the Chamber. The four University Boards confer jointly the MSc grade to students who graduate the programme; they mandate the SGPL Exam Committee Chamber to establish that students have effectively completed the programme successfully.

Within the framework set by the Graduate School of Geosciences, the GIMA Board is responsible for safeguarding the quality of the education and the programme. The programme's internal quality assurance is based on the rules and regulations of the coordinating institution.

GIMA has its own Degree Programme Committee with students from the programme and teaching staff representing the partners. The rights and duties of the students are laid down in the Student Statute and the Education and Examination Regulations of the UU Graduate School of Geosciences.

During the site visit, the panel met with representatives of all partner institutions, quality assurance bodies, as well as with students, teaching staff and alumni. The panel gathered from the discussions that the partner institutions have created an organizational environment that allows the GIMA programme to fulfil its legal and educational obligations as a joint degree. However, as will be elaborated on in the next sections, the panel sees room for strengthening the governance and coordination of the joint programme, as well as the ownership of, and the final responsibility for, the programme.

Recommendations of the previous panel

In the previous accreditation round, the then panel issued a positive conclusion on the MSc GIMA, which at that time was still offered as a single degree programme. The programme board contemplating to move to a joint degree, the previous panel concluded that the GIMA structure and contents contained all necessary prerequisites for a joint degree.

In addition, the previous panel made some recommendations to further enhance the quality of the GIMA programme. The current panel noticed that the programme and its partner institutions have considered these suggestions and undertook action to integrate these in the programme. These developments and adjustments will be reported in the respective standards.

Standard 1. Intended learning outcomes

The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

Findings

Profile

The Master of Science (MSc) in Geographical Information Management and Applications (GIMA) offers students from the Netherlands and abroad with an academic master-level education in knowledge, skills and tools of geo-information (GI) science and technology. It focuses on how to use, apply and manage geo-information from a scientific perspective, and trains students in the advanced use of Geographic Information Systems (GIS) for a variety of applications. The programme size (120 EC) allows for in-depth education on a broad variety of topics, as network analysis, spatiotemporal modelling, web technology or GI-organisation.

GIMA distinguishes itself from other GIS-related programmes by the size of its curriculum, its complementary focus on the management of spatial data and projects, and by its blended form of on-site and remote education. Moreover, the programme is taught by experts from four Dutch universities with their own reputation and disciplinary tradition:

- University of Twente is known for its technical and application-oriented courses for developing countries;
- Delft University of Technology focuses on legal, managerial, organizational and technical aspects of handling geo-information;
- Utrecht University brings in geo-simulation, modelling, geography, planning and project management; and
- Wageningen University is strong on spatial data management and environmental applications.

Since its establishment in 2003, GIMA has built a strong reputation for the breadth and depth of the combined expertise on offer to students. Moreover, institutional representatives indicated to the panel that the recent change from a single to a joint degree (as of September 2023) enhanced the interest for and attention to this degree programme within the partner institutions. Acknowledging that the partner universities are specialists in their respective disciplines, the panel views the programme as a particularly relevant academic stepping stone towards meaningful employment in the field of geo-information systems and applications.

Furthermore, the panel gathered from the written materials and the discussions on site that students and alumni are very much aware of the distinguishing features of the GIMA programme, which often constitute(d) the main reason for prospective students to enrol on this programme rather than on a one-year specialist GIS programme offered by a single university. They appreciate the combined focus on geo-information and management, the applications-driven approach, the breadth of topics on offer, and the blended form of education which allows students from the Netherlands and the neighbouring countries to stay “at home” during the study and/or combine the study with work.

According to statements in the accreditation file, the GIMA programme aims to provide students with state-of-the-art competences in the domain of GIS. The previous accreditation panel recommended GIMA to integrate new sources of geospatial information in the programme and pay more attention to ethical, legislative and regulatory aspects of georeferenced data. The current panel noticed on the one hand that in order to reflect technological and societal developments, new content has effectively been added to some modules. On the other hand, these additions seem rather limited in comparison to developments in the discipline and in the domain of Artificial Intelligence. Programme representatives indicated that they envisage strengthening teaching materials on the ethical considerations of using data and algorithms in GI science and that they look for ways to integrate the disciplinary developments whilst maintaining GIMA’s unique profile. They recognize that the current developments are crucial and that their uptake is necessary, but it proves difficult to implement these aspirations by adding new teaching materials and learning activities in an already packed curriculum. The programme team is fully aware that some existing topics will have to make space for new ones, but had not yet taken a decision in this trade-off at the time of the site visit. The panel encourages the programme team to proceed swiftly with the envisaged adjustments and decide on new course materials as soon as possible.

On a more general note, the panel established on the basis of the written materials and the discussions on site that apart from the switch from a single degree to a joint degree, there has been not much change in the programme objectives, set-up and contents since the previous accreditation round. This is all the more surprising given the recent developments in the field of GIS and the recommendation on this point by the previous panel. Acknowledging that GIMA programme management is fully aware of what is up for improvement, the panel would have expected a greater sense of urgency and a more active uptake and implementation of these elements, notably since the official transition to a joint degree programme.

Intended learning outcomes

By the end of their study, students are expected to demonstrate twelve learning outcomes. The set of intended learning outcomes is presented in Appendix 1. The panel studied these end qualifications, which have been clustered in domain specific, scientific, and general learning outcomes and take into account both the Dublin Descriptors and the Domain Specific Reference Framework. Looking at the formulation of the learning outcomes, the panel noticed that the statements reflect adequately the substance (geo-information management), level (master) and orientation (academic) of the programme. Hence, the panel acknowledges the statement in the visitation dossier that the learning outcomes are in accordance with both scientific and professional requirements. The intended learning outcomes reflect the requirements for master programmes as described in NLQF level 7.

In order to graduate, students are trained in the theoretical, methodological, technological and organizational principles of working with GI, as well as in using modern GI methods and technologies in various application fields. Because the application component is particularly important, students will practice on realistic cases and tasks and in this way acquire the competencies necessary for GI research, GI

management, and the design and implementation of GI-based solutions for societal problems. Moreover, students learn how to use, apply and manage geo-information from a scientific perspective.

The joint MSc GIMA takes up a specific position within the Dutch higher education landscape of human geography and spatial planning. Given its particular character, the panel was somewhat surprised to notice that the intended learning outcomes are formulated in a rather general way. It therefore fully subscribes to what is mentioned as a weakness in the SWOT analysis that the diversity, breadth, and unique expertise of the four participating universities are not fully visible in the programme's intended learning outcomes. The panel therefore advises the programme team to formulate the learning outcomes in a more specific way, reflecting the distinctive characteristics of the programme and its four partners.

Professional field

The panel gathered from the written materials and the discussions on site that the work field is a sparring partner for the GIMA programme. To this effect, the programme established a GIMA Labour Market Committee, which advises programme management about the curriculum content from the perspective of the professional field. The committee consists of representatives from eight private and public organizations that are important providers of internship and job opportunities for GIMA students and alumni.

During the site visit, the panel spoke to two GIMA alumni, one of whom is also member of the GIMA Labour Market Committee. The committee member indicated that the programme regularly seeks – and takes on board – their input on both curriculum content and programme objectives. Both alumni also confirmed – as employers of GIMA graduates – that programme alumni possess unique, diverse and highly valued competences as scientifically trained disciplinary specialists, and as project managers who know how to work in international and intercultural teams.

The panel welcomes the attention of the programme to the professional field and its systematic involvement in monitoring the relevance of the programme objectives, course contents and graduate competencies.

Considerations

Based on the above-mentioned findings, the panel considers that the joint MSc GIMA has a clear and outspoken profile. After more than twenty years of existence, the now joint degree continues to take up a specific position in the higher education landscape through its size, its set-up, its focus on geo-information management and application, and its blended education format.

The panel thinks highly of the programme set-up featuring four institutes that together allow students to experience different concepts and views on the geo-information field beyond what is possible in other programmes provided by one single university.

The panel established that the GIMA learning outcomes are adequately formulated and reflect the substance, level and orientation of the programme. Moreover, the end qualifications befit the programme profile and cover both the scientific and professional requirements of the domain.

The panel appreciates the close connection with the professional field in terms of curriculum delivery, while the GIMA Labour Committee is monitoring the continued relevance of the programme.

In addition to these fundamentally positive impressions, the panel considers that the intended learning outcomes do not do full justice to the diversity, breadth and unique expertise of the four participating

universities. An update of their formulation could be part of a bigger endeavour in which the programme team rethinks/confirms the GIMA profile and implements the necessary changes in course content. This topic will be further discussed under Standard 2 as most findings underpinning this appreciation are connected to elements related to the teaching-learning environment. The panel considers that there has been not much change in the programme since the previous accreditation round, which is all the more surprising given the recent developments in the field of GIS and the recommendation on this point by the previous panel. Acknowledging that GIMA programme management is fully aware of what is up for improvement, the panel would have expected a greater sense of urgency and a more active uptake and implementation of these elements, notably since the official transition to a joint degree programme.

Conclusion

The panel concludes that the joint programme **meets** standard 1.

Standard 2. Teaching-learning environment

The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

Findings

Curriculum

The joint MSc GIMA is a two-year programme that amounts to 120 EC. The curriculum has a modular structure with a clear sequence: the first part consists of six common taught modules of 10 EC each, which are followed by an internship and a master thesis of 30 EC each. In order to attract (junior/mid-career) professionals, the programme is also available in a part-time variant. In the latter case, student-professionals follow the same modules as their fulltime colleagues, but spread these over a period of four years. An overview of the curriculum in both variants is presented in Appendix 2.

The six modules consist of an introduction and an advanced course on the three main issues in GIMA: methods and techniques in geo-information; project management and organization in relation to geo-information; and applications of geo-information. Throughout the modules, students acquire insight in all relevant aspects of geo-information management and applications. While all modules are compulsory, students can often choose assignment topics or cases they find particularly interesting or relevant.

The second part of the programme is tailored to the individual interest of the student. The internship allows students to apply and practice the knowledge accumulated during the first six modules. They gain technical and practical experience in a (geo-information) professional working environment in the Netherlands or abroad and expand their professional network. Its academic character is ensured as students identify a research topic on which they spend at least 60% of their internship time. Students arrange the internship themselves, but can ask the GIMA Internship Coordinators for support. During the internship, the student is followed up by a workplace supervisor and GIMA supervisor from one of the partner universities whose expertise matches the internship research topic.

The previous panel indicated that the programme structure left little room for electives. The current panel established that students are still interested in customizing the study programme to their individual interests and now have at least some opportunity to do so. The internship can be shortened to include an elective,

while students can choose to focus in depth on one of six topics in module 5. Moreover, in the master thesis students perform research on a topic of their interest.

The GIMA programme explicitly targets students from different educational and cultural backgrounds. Some students bring work experience from the geospatial industry to class, which enriches the learning environment. The previous panel recommended to attract more international students, as well as more mid-career professionals. The current panel gathered from the written materials and the discussions on site that the share of international students over the last few years has been stable at around 30%. The panel welcomes this stability as a positive evolution given the current political sphere in the Netherlands regarding internationalization and the limited possibilities for higher education institutions to actively recruit international students. The panel was furthermore informed that companies are putting more pressure on employees, which makes it particularly tough for mid-career professionals to set aside four years to combine the GIMA programme with their job. Moreover, national authorities changed the study policy by increasing the tuition fee for students/professionals who want to pursue a second master study. Nonetheless, three to four mid-career professionals enter the GIMA programme every year.

In sum, the extensive information materials and the discussions on site have demonstrated convincingly that the foundational building blocks of the curriculum are adequate, that the curriculum set-up is logical and that the topics covered are relevant. The fact that GIMA can rely on a wide range of teaching staff from four partner universities ensures that the entire disciplinary breadth of the programme is offered.

Language of instruction

The joint MSc GIMA programme has an English name and its language of instruction is English. The panel was informed that this has been the case since the start of the (then single) programme in 2003. It gathered from the materials and the discussions that the international dimension is an important aspect of GIMA. The creation of an international learning environment helps students gain the international and intercultural skills to function in a globalized labour market and reflects the international orientation of the academic field. The content of the teaching is linked to relevant global problems and challenges, and students are taught about research and professional practices worldwide. Currently, about 30% of the student intake is non-Dutch. According to the panel, the number of international students allows for an international atmosphere inside and outside the classroom. Students and recent alumni indicated to the panel that the international and intercultural component of the programme gave them a competitive advantage in both recruitment for a position and in settling in with their new employer.

Given that the international character of the programme is clearly present in the disciplinary contents, the teaching staff and the students, the panel subscribes to the initial decision of the programme management to have the programme's name and the language of instruction in English.

Learning environment

A particular feature of the joint MSc GIMA is that the curriculum is offered in a blended format. This means that most of the time students can study where and when they want, independent of the location, and enables them to combine their study with other activities. Each module starts with two weeks of on-campus sessions at one of the partner universities featuring lectures and explanations of the upcoming assignments. The next twelve weeks are devoted to remote learning, during which students follow online tutorials, read literature, attend online Q&A sessions, and work on individual assignments and group projects. Each module concludes with on-campus sessions for presentations and exams. In total, GIMA consists of four on-campus periods of two weeks during the first part, while students write their thesis and do an internship during the second part.

When asked by the panel about the blended approach and the relatively limited number of on-site contact hours, the students and recent alumni indicated that this blended character constituted an important criterion to eventually enrol in GIMA. Students on the programme highly appreciated the autonomy to self-organize their study and combine it with other activities, notably work. Several interlocutors, moreover, indicated that the study association NODE plays an important role in fostering a community feeling among GIMA students both during the on-site sessions and the in-between on-line periods. The panel therefore establishes that the choice for a blended learning format is well thought-through and proves to be effective for many students.

However, the panel also established from the written materials and the discussions that the implementation of the blended learning leaves to be desired in several ways. The programme is aware that this blended character requires students to have efficient self-organization and strong time management skills. What might seem an ideal study-work-life balance situation at the start may become a challenge and a stumbling block for some students during the programme. Hence, the programme will monitor how in particular the younger generations of students learn and if the current modular approach with limited but packed contact days and long periods of distance learning continues to benefit these cohorts.

In this regard, the panel was informed by students and recent alumni that the current on-site weeks are very intense and often too packed to digest and put in context what has been offered in the lectures. In addition, students mentioned that recent cohorts are increasingly diverse in educational background, which makes it sometimes difficult to find a common denominator in online group assignments. In addition to free rider behaviour, some students reportedly are not in a position to contribute much to assignments at the start of the programme because they lack the required knowledge and skills. The panel shared these concerns with the GIMA management who indicated that they are aware of the situation, will investigate this further with an eye to accommodate the concerns in the next programme run.

Information on the programme, the courses and the assignments is shared online with Blackboard being the central communication platform. For study-related advice, students can contact the GIMA programme coordinator. Furthermore, students are entitled to use the facilities of all four partner universities. Students indicated during the visit that overall, the system of information provision and student guidance are working as they should. This also applies to students with special needs requiring specific provisions to follow courses and/or take exams. However, a considerable number of students indicated that sometimes, the information provided on day-to-day course-related notifications is not straightforward or even contradictory. In these cases it is difficult to find out the correct information because different people seem to be responsible for one course and there is no permanent single point of contact. The panel established on the one hand that the overall provisions for students are in place, but that on the other the programme team needs more and better coordination in communicating day-to-day messages to students.

Admission, intake, drop-out and completion rate

GIMA attracts Dutch and international students with a bachelor degree, academic and research skills, and knowledge and insight at a level that is comparable to the BSc GSP in geo-information, geography, GIS, geographical data processes and information collection, processing and distribution. The panel found the admission requirements to be clear and appropriate, thereby allowing for relatively heterogeneous cohorts.

The panel gathered from the written materials and the discussions on site that the student intake has fluctuated from one academic year to another. On average 36 students enrolled between 2018 and 2024, with a major increase over the past two years: from 25 in September 2023 to 47 in September 2024.

While the panel is aware that small intake figures may blow up relative shares, between 9% and 24% of the students dropped out of GIMA. Similarly, the nominal success rates range between 26% and 44%, while between 60% and 80% of the students finish in three years.

Given the increasing diversity in student backgrounds, the panel advises the programme team to not only record and monitor these data, but also analyse to what extent patterns emerge that indicate either positive or negative correlations between student background or study variant on the one hand, and drop-out and success-rate on the other hand. These patterns, then, could lead to policy measures mitigating any possible negative correlations.

Staff

According to an overview in the programme materials, a total of 43 staff members from all four partner institutions is involved in the GIMA programme. Each university provides staff members who teach in the programme and does so in a more or less equal way spread over the eight modules. The majority of staff members hold a University Teaching Qualification and all staff have good English language skills, at CEFR level C. The panel gathered from the CV's that the teaching staff have good disciplinary knowledge and often excellent research skills. Together staff across the participating universities covers the entire breadth of the GIMA programme. Students and recent alumni indicated to the panel that they were satisfied with the content expertise of their teachers, and very often also with their didactical skills. The panel established that the disciplinary breadth and depth of the teaching staff involved in GIMA is exemplary and constitutes an important asset of the joint degree.

Compared to the findings of the previous panel, however, the current panel noticed that students were less positive about the availability of the teaching staff and about the way they coordinate their contributions assignments and deadlines within modules (or the lack thereof). Similarly, some students and alumni indicated they were happy with the support of the thesis supervisor, while others complained about the delay in, and the amount of, feedback. Moreover, the discussions on site showed that there are contacts among staff within modules and across the programme, but that staff meetings are not very systematically held, and participation seems not compulsory. This will be further discussed below.

Programme delivery

The panel gathered from the written materials that the overall positive impressions on the structure and building blocks of the GIMA programme were not met by equally positive feedback on the way the programme is currently delivered. The student chapter was quite vocal on the perceived lack of coordination at the level of the modules and the programme, on the limited engagement of teaching staff, on the substandard quality of some teaching materials, and on the limited functionality of the educational infrastructure. Moreover, the latest results on the National Student Survey seemed to confirm some of these issues, notably with regard to the teaching staff.

While the panel applauds the openness of the programme in sharing this information, it found the allegations quite serious. Several students, for instance, reported that teaching staff is not very approachable and give the impression that they do GIMA teaching 'on the side'. They found that there was limited coordination between staff members within or across modules leading to both overlap and uncertainty as to what and how should be prepared for the exam, and with no opportunity to contact the professors. Students felt that some of the teaching materials were outdated, while some assignments that had been used more than ten years ago, were recovered and re-used recently. While the didactic format places a lot of importance on Blackboard, this learning environment does not seem to meet the needs or

expectations of the students as it is disorganized, making content difficult to access, and inconsistent across modules. In addition, the panel noted that student counselling on a programme level was lacking, while academic advisors at the Faculty of Geosciences of the UU observe they are 'at some distance' to the GIMA programme. Finally, student's calls for one person as single point of access suggest that support infrastructure might benefit from a critical review.

Similarly - but intrinsically linked to standard 3 - the panel was informed that also the day-to-day implementation of the assessment policy is not always up to speed. In fact, students mentioned in their chapter and during the discussions on site that in certain modules there was not much communication or calibration between teachers on how to grade the same assignment handed in by different students; in other cases, grading was considerably delayed and deadlines for feedback were not respected, which in turn minimised the scope for students to learn from this formative input.

With this information at hand, the panel entered the discussions on site. Students confirmed to the panel that the points raised in the student chapter (written in January 2025) and the 2024 edition of the NSE had not been resolved, even though they had been raised by students, both orally and in writing, to the Programme Committee, the Director of Education and through these bodies to the GIMA Board. The GIMA programme management acknowledged the above-mentioned points to the panel but had not yet taken concrete action to resolve these, nor had these been high on the agenda. Furthermore, when asked about the programme vision on topics such as new curriculum contents, the blended format, the programme variants, or the inclusion of mid-career professionals, the panel noted that there was no single shared vision of the direction of future development of the programme. Finally, the panel gathered from the same meeting with programme management that notwithstanding the cooperation agreement with four partner institutions, a coordinating institution and a delegated programme director, there was not a single individual or partner that assumed leadership, final responsibility or ownership to resolve these issues and develop the programme further.

While some of the above findings may find their origin in a substandard day-to-day cooperation and follow-up among partner institutions, the panel is convinced that the joint character of the MSc GIMA remains steadfast and is assured through the current - admittedly basic - provisions of the cooperation agreement, the set of intended learning outcomes, the module objectives and the assessment arrangements.

Nonetheless, and based on the above observations, the panel feels that the programme needs a thorough re-evaluation regarding the way in which the programme is delivered, which addresses the reported issues in the teaching-learning environment and in course assessment. According to the panel, these issues can be clustered around four domains: (i) flaws in the quality of course materials and the responsiveness of teaching staff; (ii) poor communication among and between management, staff and students; (iii) limited vision on the current programme and the future developments in the discipline; and (iv) ineffective governance among partner institutions resulting in a lack of ownership.

According to the panel, it is feasible to remedy these shortcomings within two years through a dedicated repair trajectory that consists of producing and implementing four deliverables:

- a quality assurance plan that addresses the current flaws in course and assessment delivery. The plan should identify how these weaknesses will be addressed in the short run and structurally avoided in the long run.
- a communication plan stipulating how the internal communication among the institutional partners, the programme board, the programme coordinator and the teaching staff will be designed in the future

and be operationally effective. The plan should also elaborate how student input on individual courses and the programme as a whole will be treated swiftly and effectively.

- a shared vision discussing both current programme features and the integration in the curriculum of forthcoming disciplinary developments. The resulting vision document should advocate for the programme choices made until now, and stipulate how developments in the discipline are/will be addressed in the learning materials, the course learning objectives, and the programme learning outcomes.
- a detailed cooperation agreement that contains clear and unambiguous provisions regarding the governance and coordination of the joint programme, as well as the ownership of, and the final responsibility for, the programme. These provisions should address the responsibility for programme execution, the final responsibility of the respective partner institutions, and the division of tasks and roles between the coordinating institution and the other institutions

Considerations

Based on the above-mentioned findings, the panel considers that the foundational building blocks underlying the set-up of the teaching and learning environment are adequate, an appreciation that applies to the curriculum, the learning environment and the disciplinary expertise of the teaching staff. The curriculum set-up is logical and the topics covered in the modules are relevant. The choice for the blended learning format is well thought through and constitutes an important selling proposition for an increasing number of educationally and geographically diverse students. The fact that GIMA can rely on a wide range of teaching staff from four partner universities is a particular asset and ensures that the entire disciplinary breadth of the programme is offered.

Furthermore, the current panel found that the programme team has addressed adequately some of the concerns and recommendations of the previous panel. Moreover, the team is aware of the challenges that come with offering a blended programme format for an increasingly diverse student audience. In this regard, the panel advises the programme to analyse student data for patterns and correlations between student intake, background, drop-out and success rate.

The panel endorses the English name of the programme, as well as the decision to offer the joint MSc GIMA in English. The panel found that the international dimension clearly enriches the teaching and learning environment for both Dutch and non-Dutch students.

The joint MSc GIMA is offered in a fulltime and a parttime variant, with only a small number of students enrolled on the parttime variant. The panel establishes that the findings and considerations on the teaching-learning environment apply equally to both variants.

In addition to these positive considerations, the panel identified several weaknesses in the way the curriculum and its assessment are delivered, which can be clustered around four domains: (i) flaws in the quality of course materials and the responsiveness of teaching staff; (ii) poor communication among and between management, staff and students; (iii) limited vision on the current programme and the future developments in the discipline; and (iv) ineffective governance among partner institutions resulting in a lack of ownership. According to the panel, it is feasible to remedy these shortcomings within two years through a dedicated repair trajectory that consists of producing and effectively operationalising four deliverables: (i) a quality assurance plan; (ii) a communication plan; (iii) a vision document; and (iv) a detailed cooperation agreement.

Conclusion

The panel concludes that the joint programme **partly meets** standard 2.

Standard 3. Student assessment

The programme has an adequate system of student assessment in place.

Findings

Assessment system

The panel gathered from the written materials and the discussions on site that as a joint degree, GIMA follows the assessment principles and policies of the Faculty of Geosciences at Utrecht University. In this set-up, Education and Examination Regulations, as well as programme assessment plans play an important role.

The GIMA Assessment Plan covers the implementation of the assessment policy at curriculum and course level, and shows the interrelation between the programme, the curriculum courses, and the various types of tests. Similarly, the approach used for testing in the GIMA programme aligns with the overall faculty vision on assessment. Key principles of the testing policy include among others a clear relationship between the learning outcomes, course objectives, and types of course tests, the combination of summative and formative types of tests, and a coordinated match of the level and type of tests across all course. In addition, the GIMA programme aims at an authentic assessment of the student attitudes, skills, and knowledge of theory and methods throughout its modules. The panel studied the Assessment Plan and found that the principles described in this document, as well as the GIMA-specific overviews on the alignment between learning outcomes, course objectives, and assessment types are not only correctly formulated but also do justice to the way assessment is implemented in the day-to-day reality of the GIMA programme.

The main elements of the assessment and grading system are described in the Education and Examination Regulations. The assessment of each module is included in the annual GIMA Course Catalogue, which is publicly available on the website, and further elaborated on Blackboard as well as in the study guides per module. All grades are posted on Blackboard and accessible online via the OSIRIS student registration system. During the visit, students and recent alumni indicated that the assessment system is clear and transparent, that they appreciate the combination of individual and group work, as well as the formative feedback they receive on certain assignments.

Furthermore, the discussions on site showed that GIMA is still looking for the best way to accommodate the (impact of the) developments in Generative Artificial Intelligence (GenAI) on both education and assessment. Programme representatives indicated that on the one hand, the rapid development of GenAI tools poses a threat to the validity of student performance assessment in the sense that students may pass the assignment using AI without obtaining the required knowledge and skills. This situation forces course coordinators to frequently review and adapt their assessment provisions. On the other hand, these developments also constitute an opportunity to reflect on where and how each programme learning outcome is assessed.

In sum, the panel established that the joint MSc GIMA can rely on an adequate system of assessment that is embedded in long-standing policies and practices of the Faculty of Geosciences at Utrecht University.

Course assessment

The curriculum consists of six taught modules, an internship and a master thesis. The programme foresees several forms and levels of assessment to ensure that students eventually achieve the intended learning outcomes of the GIMA programme. The panel gathered from the overview in the assessment plan that the types of course assessments align with the programme's vision on assessment and grading and that overall there is a fair balance in the GIMA curriculum between individual and group assignments.

Each of the six modules features individual and/or group assignments, as well as formative and summative assessments. While summative assessment serves to establish whether students have acquired the course objectives, formative feedback on assignments enhances the effective learning of students during a course. By including sufficient individual work - and thus individual assessment - the programme ensures that students have the opportunity to excel. The group work contributes to training leadership and management skills as part of a team. To avoid free rider behaviour, lecturers sometimes use peer review to test individual progress within group work. The combination of individual and group assignments stimulates both an independent attitude and teamwork, two important skills that are explicitly assessed during the curriculum as part of the programme learning outcomes. Moreover, four modules include a written exam with questions from the lecturers involved in the module.

In several modules, assessments are organized around central case studies from a wide range of applications, such as addressing societal or environmental issues by using GIS technology, managing geo-information projects, or involving different stakeholders in spatial data infrastructures in organisations. Students indicated both in course evaluations and to the panel on site that they appreciate these authentic assessment types, which make them realize the relevance of what is being taught and the usefulness of their efforts.

In the second part of the programme, the focus is on individual work on the thesis and the internship report. The latter component features three assessment parts, which are assessed according to the GIMA guidelines provided in the internship assessment rubric: professional skills (based on advice from the internship provider), internship report/article (by the internship supervisor), and a personal reflection report.

According to the panel, the operationalization of the assessment principles at course level reflects the profile and objectives of the GIMA programme. It appreciates the mixture of individual and group assignments, written exams, and formative and summative evaluations.

Thesis assessment

The GIMA thesis has a study load of 30 ECTS. The thesis trajectory consists of five steps: (i) research identification, (ii) extended research proposal, (iii) midterm presentation based on the draft thesis report, (iv) thesis report, and (v) thesis defence. Each student has a thesis supervisor and a responsible professor. The assessment of steps 1-3 is the responsibility of the supervisor, the responsible professor, and the thesis coordinators. The assessment of steps 4 and 5 involves a reviewer from one of the other partner universities. At the end of the trajectory, a Thesis Examination Committee (TEC) judges the quality of the thesis report and the presentation (defence) along the lines of the thesis assessment form and the GIMA thesis rubrics. This committee consists of the responsible professor (chair), the thesis supervisor and the reviewer. To establish the final grade, the TEC looks at the written thesis (50%), the research process (30%), the thesis presentation (10%), and the discussion at the defence (10%).

As part of its external assessment, the panel reviewed a representative sample of 15 GIMA theses and their completed evaluation forms. The theses were selected among graduation projects submitted in the

academic years 2022-2023 and 2023-2024. The quality of the theses will be addressed under the next standard. In so far as the quality of thesis assessment is concerned, the panel found that the evaluation form covered relevant criteria, which are broken down in detailed rubrics. Moreover, the assessment process was described meticulously in the instructions for the TEC: the initial assessment of the thesis report (phase 4) is performed independently by the reviewer and the supervisor and takes place prior to the defence. This in turn leads to one thesis 'package' with three different evaluation forms by the reviewer, the supervisor, and the TEC.

This overall positive impression demonstrates according to the panel that the programme team successfully addressed the recommendation of the previous panel to clearly document the independent thesis assessment procedure, show the individual assessments of the supervisor and reviewer, and enhance the space for written feedback on the assessment form.

In terms of grading, the panel found that almost all theses had been scored fairly in the sense that the final grade coincided in almost all cases with the panel's opinion on the thesis quality. As a point for attention in the future, the panel noticed that the scores on the overall quality and the respective criteria were in many cases not very well motivated. In fact, in several evaluation forms the written motivation was either absent or hardly informative. Confronted with this finding, the programme team and the Board of Examiners indicated that they were aware of the situation and had in the meantime adjusted the thesis assessment procedure for the current academic year 2024-2025. To prove their point, the Board of Examiners provided the panel with the new assessment format and TEC instructions. The panel noticed that the new thesis evaluation form includes an extra space for the evaluation summary of the thesis reviewer's comments prior to the defence. The panel welcomes this adjustment and encourages the programme team – and the Board of Examiners – to monitor that in the future, all – not just some - thesis evaluation forms are completed in an insightful way.

Quality assurance

The panel gathered from the written materials and the discussions on site that as a joint degree, the programme's assessment quality is safeguarded by the Central Exam Committee (CEC) of the UU Faculty of Geosciences. The faculty-wide CEC safeguards the quality of assessment for all degree programmes at the faculty of Geosciences and has delegated part of its responsibilities to three Chambers who independently execute their tasks within the framework set by CEC. The GIMA programme resorts under the SGPL Chamber: at all times one GIMA programme representative (currently from WUR) is member of the Chamber. In addition, a faculty-wide Assessment Committee operates under the wings of the CEC and analyses and advises on the quality of assessment.

During the site visit, the panel spoke to representatives of the CEC, the Assessment Committee and the SGPL Chamber and found that these members are highly competent and very committed to their quality assurance tasks. They informed the panel about the important role of the second reviewer in thesis assessment and about the go/no go moment before a student is invited to the GIMA thesis defence. Moreover, following a review by the Assessment Committee, the Chamber had advised the GIMA programme to adjust the thesis evaluation form and the TEC instructions.

According to the panel, the quality assurance system for assessment is both comprehensive and effective. The Central Exam Committee, the Exam Committee Chamber and the Assessment Committee are an asset to the Faculty and the GIMA programme.

Considerations

Based on the above-mentioned findings, the panel considers that the joint MSc GIMA can rely on an adequate system of assessment that is embedded in long-standing policies and practices of the Faculty of Geosciences at Utrecht University. The operationalization of the assessment principles at course level reflects the profile and objectives of the GIMA programme, while the assessment plan safeguards that course learning objectives are assessed adequately and cover the programme learning outcomes. Overall, the panel appreciates the mixture of individual and group assignments, written exams, and formative and summative evaluations.

The panel thinks highly of the way thesis assessment is organised in different steps (report assessment, presentation, defence) and contains in-built provisions for an independent judgement of the report quality. The thesis review by the panel members demonstrated that the evaluation form is relevant and that the grading by the programme assessors is in line with their own appraisal. However, the panel also established that the completed forms often did not contain sufficient and informative feedback to motivate the scores. Welcoming the pro-active attitude to adjust the evaluation form, the panel recommends the programme management to monitor that all forms are completed in an insightful way in the future.

Furthermore, the panel considers that the quality assurance system for assessment is both comprehensive and effective, and it commends the CEC, the SGPL Chamber and the Assessment Committee for their expertise and commitment.

The joint MSc GIMA is offered in a fulltime and a parttime variant, with only a small number of students enrolled on the parttime variant. The panel establishes that the above findings and considerations on student assessment apply equally to both variants.

Conclusion

The panel concludes that the joint programme **meets** standard 3.

Standard 4. Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

Findings

There are two ways to determine whether the intended learning outcomes are effectively achieved: through a quality control of the final projects and by examining the career paths of graduates after completing the programme. The panel considered both aspects when assessing the achieved learning outcomes of the joint MSc GIMA.

Thesis quality

The master programme culminates in the master thesis, which amounts to 30 ECTS. Through the thesis, students demonstrate their ability to use and integrate the knowledge and competences acquired during the first six modules on a topic of their own choice and interest, to present the process and the results of their research project in both written and oral format, and to defend and discuss their own work. Further to what was mentioned before, the panel thinks this particular set-up of the thesis trajectory is a good practice.

As part of its external assessment, the panel reviewed a representative sample of 15 GIMA theses, selected among graduation projects submitted in the academic years 2022-2023 and 2023-2024. Its overall finding is that each of the theses fulfilled at least the minimum quality requirements of what can be expected of a final

master product of academic orientation. Having reviewed a sample that reflected the wide variety in grades, the panel noticed that there is indeed a considerable difference in quality across the theses. These quality differences are reflected properly in the scoring grid, which means that theses who received a higher score by the GIMA assessors were indeed of better quality according to the panel.

This overall positive impression demonstrates according to the panel that the programme team successfully addressed the recommendation of the previous panel to avoid too strong a focus on application in the thesis, and to increase the attention to the interpretation and the discussion of the results.

Based on the sample, the panel established that each GIMA thesis it reviewed, deserved to pass. Hence, it is fair to conclude that students who successfully pass the thesis, have achieved the intended learning outcomes of the programme and are entitled to graduate.

Graduate performance

The panel gathered from the written materials that GIMA students have broad knowledge and insights on geo-information and management when they graduate, and are able to coordinate projects and teams. The panel noticed that the programme set-up facilitates this transition to a follow-up career because students can hone their academic and professional skills during the latter half of the programme, in the internship and the thesis, and start building a professional network.

In fact, most graduates are offered a job immediately after finishing their study or even during their internship. Graduates usually start their careers as GIS advisers, all-round managers, researchers or application specialists. This positive impression was confirmed during the discussions on site: alumni, including a member of the GIMA Labour Market Committee, confirmed their excellent fit with the requirements of the professional GIS field because GIMA graduates possess unique and diverse skills and competences that are highly valued by employers. Recent alumni from their side indicated that the combination of GIS and management proved a match made in heaven for their career. The competences they acquired during their study could be transferred easily to the work place while the contents of the GIMA courses tend to be ahead of what recent graduates need for their job.

The panel was satisfied to hear these positive appreciations on the performance of GIMA graduates, which confirmed the signals the panel had picked up in their own day-to-day professional activities of the strong reputation of the GIMA programme and its graduates with the professional field and employers. Having studied the materials and discussed with relevant stakeholders, the panel now fully understands this good reputation.

Considerations

Based on the above-mentioned findings, the panel considers that the intended learning outcomes are assessed and demonstrated in a systematic way. The thesis review shows that the GIMA theses are overall of good quality and that every thesis definitely deserves to pass. The panel is therefore convinced that all GIMA students who successfully pass the thesis have effectively achieved the programme learning outcomes.

Furthermore, the panel considers that GIMA graduates are well prepared during their study for a follow-up career. The programme does not only offer high quality content, but also requires students to be motivated and disciplined, have an independent work attitude while also being open to teamwork, and have a good capacity for self-organisation. The blended character of the programme prepares students not only for the job contents, but also provides them the necessary professional skills to stand out on the labour market. The

panel is therefore convinced that GIMA graduates demonstrate the knowledge, skills and attitudes mentioned in the programme learning outcomes.

The joint MSc GIMA is offered in a fulltime and a parttime variant, with only a small number of students enrolled on the parttime variant. The panel establishes that the above findings and considerations on achieved learning outcomes apply equally to both variants.

Conclusion

The panel concludes that the joint programme **meets** standard 4.

General conclusion

The panel established that the MSc Geographical Information Management and Applications (joint degree) meets the NVAO standards intended learning outcomes, assessment, and achieved learning outcomes. It partly meets standard 2, teaching-learning environment. As a result, the panel's overall assessment of the GIMA programme is conditionally positive.

In addition to all positive considerations, the programme's shortcomings can be clustered around four domains: (i) flaws in the quality of course materials and the responsiveness of teaching staff; (ii) poor communication among and between management, staff and students; (iii) limited vision on the current programme and the future developments in the discipline; and (iv) ineffective governance among partner institutions resulting in a lack of ownership.

In order to remedy these shortcomings, a repair trajectory is needed. The panel puts the following conditions to the GIMA programme:

- To produce a quality assurance plan that addresses the current flaws in course delivery (such as quality of the materials and teaching staff responsiveness).
- To produce a communication plan stipulating how the internal communication among the institutional partners, the programme board, the programme coordinator and the teaching staff will be designed in the future and be operationally effective.
- To develop a shared vision on both current programme features and the integration in the curriculum of forthcoming disciplinary developments. The resulting vision document should advocate for the programme choices made until now, and stipulate how developments in the discipline are/will be addressed in the learning materials, the course learning objectives, and the programme learning outcomes.
- To produce a detailed cooperation agreement that contains clear and unambiguous provisions regarding the governance and coordination of the joint programme, as well as the ownership of, and the final responsibility for, the programme.

These four conditions do not only cover the production of the plans, but also their effective operationalisation. Hence, at the end of the repair trajectory, the panel will judge the quality of the four deliverables on the basis of their operational effectiveness. The panel deems it feasible to address these conditions within two years.

Recommendations

Furthermore, the panel identified a few points for development that fall outside of the scope of the repair trajectory. Hence, the panel recommends the programme to:

- adjust the intended learning outcomes in such a way that they do justice to the diversity, breadth and unique expertise of the four participating universities;
- analyse student data for patterns and correlations between student intake, drop-out and success rate;
- monitor that all thesis evaluation forms are completed in an insightful way.

Appendix 1. Intended learning outcomes

The graduate is able to:

DOMAIN SPECIFIC

1. Identify and understand geo-information concepts, methods and techniques.
2. Use appropriate concepts, methods and techniques for the management and application of geoinformation.
3. Analyse the quality and usability of geo-information processes.
4. Evaluate solutions for societal problems by applying knowledge of geo-information.
5. Design and implement proof-of-concept geo-information-based solutions for societal problems.

SCIENTIFIC

6. Independently formulate and execute research in accordance with academic standards within the field.
7. Communicate clearly (both orally and in writing) with specialists and non-specialists to present and discuss the outcomes of research and design projects.
8. Show awareness of the need to keep in touch with relevant developments within the discipline and show the ability to recognize, understand and apply new concepts and approaches as they emerge.
9. Demonstrate understanding of the moral and ethical dimensions of scientific research and its applications, and the importance of intellectual integrity.

GENERAL LEARNING OUTCOMES

10. Effectively organize, structure and plan phases in multidisciplinary teamwork.
11. Critically reflect on own performance and results, as well as on those of colleagues.
12. Design and plan a path to study in Geo-Information Science in a manner that is largely self-directed or autonomous.

Appendix 2. Programme curriculum

Fulltime variant

Each module accounts for 10 EC, while the internship and the thesis amount to 30 EC.

Jaar 1

Week 36-50	Week 51-13	Week 14-27
Course module	Course module	Course module
Course module	Course module	Course module

Jaar 2

Semester 1	Semester 2
Master's thesis	Internship

Jaar 1 voltijds

Week	Course
Week 36	Module 0: <u>Introduction</u>
Week 37-50	Module 1: <u>Methods and Techniques for Geo-information Management and Application</u> Module 4: <u>Introduction to Geo-information Project Management</u>
Week 51-13	Module 2: <u>Basic Geo-information Application Project</u> Module 5: <u>Advanced Methods and Techniques for Geo-data Handling</u>
Week 14-27	Module 3: <u>Management of Geo-information in Organisations</u> Module 6: <u>Advanced Geo-information Applications</u>

Jaar 2 voltijds

Thesis GIMA

Internship GIMA

Parttime variant

Each module accounts for 10 EC, while the internship and the thesis amount to 30 EC.

Jaar 1 deeltijd

Week	Course
Week 36	Module 0: <u>Introduction</u>
Week 37-50	Module 1: <u>Methods and Techniques for Geo-information Management and Application</u>
Week 51-13	Module 2: <u>Basic Geo-information Application Project</u>
Week 14-27	Module 3: <u>Management of Geo-information in Organisations</u>

Jaar 2 deeltijd

Week	Course
Week 37-50	Module 4: <u>Introduction to Geo-information Project Management</u>
Week 51-13	Module 5: <u>Advanced Methods and Techniques for Geo-data Handling</u>
Week 14-27	Module 6: <u>Advanced Geo-information Applications</u>

Jaar 3 en 4 deeltijd

Thesis GIMA

Internship GIMA

Appendix 3. Programme of the site visit

Location: Faculty Geosciences, Faculteitszaal VMA 0.02

Wednesday 18 June 2025

10.30	10.40	Arrival and welcome
10.40	11.30	Internal panel meeting
11.30	12.30	Interview faculty and programme management
12.30	13.30	Lunch
13.30	14.00	Interview bachelor students SGPL
14.05	14.35	Interview teaching staff bachelor SGPL
14.35	15.00	Break
15.00	15.30	Interview GIMA Board (including representatives UU, TUD, UT and WUR)
15.35	16.05	Interview master students GIMA
16.10	16.40	Interview teaching staff GIMA
16.40	17.30	Internal panel meeting
17.30	18.15	Feedback day 1

Thursday 19 June 2025

08.30	09.15	Arrival and preparation
09.15	10.00	Programme management masters IDS, UEG, SP
10.00	10.10	Break
10.10	10.40	Interview master students International Development Studies
10.45	11.20	Interview teaching staff International Development Studies
11.20	11.40	Break
11.40	12.10	Interview master students Spatial Planning
12.15	12.45	Interview teaching staff Spatial Planning
12.45	13.30	Lunch
13.30	14.00	SGPL showcases
14.10	14.40	Interview master students Urban and Economic Geography
14.45	15.15	Interview teaching staff Urban and Economic Geography
15.15	15.45	Break
15.45	16.30	Interview alumni, including labour market community and advisory board members
16.30	17.45	Internal panel meeting
17.45	18.15	Feedback day 2

Friday 20 June 2025

08.30	09.00	Arrival and preparation
09.00	09.45	Interview Exam Board
09.45	10.00	Internal panel meeting
10.00	10.45	Thematic session 1 - Building a strong academic community with self-regulated learners
10.45	11.00	Break
11.00	11.45	Thematic session 2 - Handling data and people with care

11.45	12.00	Break
12.00	12.45	Thematic session 3 - Anticipating the future with (generative) AI in geography & planning
12.45	14.00	Internal panel meeting and lunch
14.00	14.30	Final interview programme management
14.30	15.00	Internal Deliberations panel
15.00	15.30	Plenary feedback

Appendix 4. Materials

The assessment visit taking a development-oriented approach, the panel studied a broad variety of materials on the GIMA programme, as well as on the UU Geo Science faculty-wide provisions that apply to this joint programme.

The “*Visitatiedossier SGPL*” contained a dedicated GIMA chapter featuring the key developments on the four NVAO standards, a student chapter, and an extensive SWOT-Analysis that also provided insight in the Aspirations of the joint programme.

The dedicated GIMA section on the online Surf Drive portal contained following materials:

- Cooperation agreement (Gezamenlijke Regeling)
- GIMA intended learning outcomes
- GIMA curriculum fulltime and parttime
- Study guide and course information
- GIMA course catalogue
- Information per module
- Space time flexibility
- Admission requirements
- GIMA module coordinators
- GIMA teaching staff
- Data on student intake, throughput, success rate
- Assessment plan
- Course assessment templates
- Course and programme evaluations 2023-2024
- National Student Survey NSE 2024
- Thesis list
- Thesis course manual
- Thesis rubric assessment forms 2023-2024 and 2024-2025
- GIMA labour market committee
- Recommendations previous accreditation
- Suggested actions based on previous accreditation
- Student feedback (December 2024)
- Domain specific reference framework

On explicit request of the panel, the programme team provided during the site visit information on the (topics that were addressed during the) GIMA Board and GIMA Programme Committee meetings since the start of the Joint Degree in September 2023.

Prior to the site visit, the panel reviewed 15 GIMA graduation works among the 57 master theses which had been successfully submitted between March 2023 and October 2024. The sample was representative in terms of final scores, full-time (14) and part-time (1) programme variants, and supervisors involved. Information on the thesis review is available from Academion upon request.