

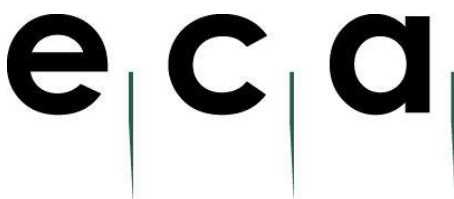
Assessment report

# MSc Degree Programme in Geo-information Science and Earth Observation

University of Twente



Certificate for Quality in Internationalisation



european consortium for accreditation



# Assessment report - Programme

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## Glossary

CeQInt	Certificate for Quality in Internationalisation
CLO	Course Learning Outcome
CROHO	Central Register of Higher Education Programmes
EC	European Credits (one study credit is equivalent to 28 hours of work)
ECA	European Consortium for Accreditation
EU	European Union
GCLA	Global Challenges, Local Action (course)
ILO	Intended Learning Outcome
ITC	Faculty of Geo-Information Science and Earth Observation of the University of Twente (ITC, derived from the former institute's name International Training Centre for Aerial Survey)
JEP	Joint Education Programme
LTB	Living Textbook
M-GEO	MSc programme Geo-information Science and Earth Observation
NVAO	Accreditation Organisation of the Netherlands and Flanders
ODA	Official Development Assistance
PDCA	Plan Do Check Act
SUTQ	Senior University Teaching Qualification (SUTQ/SKO)
TAB	Thesis Assessment Board
UT	University of Twente
UTQ	University Teaching Qualification (UTQ/BKO)

# 1. Executive summary

The MSc programme Geo-information Science and Earth Observation (CROHO: 75014), hereafter: M-GEO, was assessed by the Accreditation Organisation of the Netherlands and Flanders (NVAO). At the request of University of Twente, Qanu organised and supported the assessment. Qanu convened an assessment panel which was approved by the NVAO on 1 April 2020. The assessment panel studied the self-evaluation report and undertook a site visit at University of Twente on 29 and 30 September 2020.

## *Standard 1: Intended internationalisation*

The panel found that the internationalisation goals for the programme are adequately documented, that they clearly indicate the programme's ambitions and that they are shared and supported by stakeholders within and outside the programme. The verifiable objectives are reasonable but challenging and also correspond with the internationalisation goals. The M-GEO programme is mindful of promoting the quality of its teaching and learning as part of its internationalisation goals, as can be seen from the curriculum and from the surveys. The panel deems the underlying criteria of this standard to be met. It would be even better if the verifiable objectives are further optimised to ensure a more controlled PDCA cycle. The panel therefore assesses Standard 1 as satisfactory.

## *Standard 2: International and intercultural learning*

The panel found that the international and intercultural learning outcomes reflect the programme's internationalisation goals and that they are part of the assessments in the common courses of the programme. Also, the surveys, evaluations, a sample of the student work and subsequent careers of its graduates underpin the achievement of the international and intercultural learning outcomes. The panel deems all the underlying criteria of this standard to be sufficiently met. The panel concludes that areas for further improvement lie in a more explicit correspondence between the international and intercultural learning outcomes and internationalisation goals, in a broader and more articulated assessment basis for ILO 11, in assessing students' internationalisation progress, and in the incorporation of the international and intercultural learning outcomes into the thesis assessment and evaluation of its functioning in the near future. The panel therefore assesses Standard 2 as satisfactory.



*Standard 3: Teaching and Learning*

The panel concludes that the M-GEO programme meets all underlying criteria of this standard. It found that the structure and content of the curriculum, the teaching methods and the learning environment all clearly contribute to the achievement of the international and intercultural learning outcomes by all students. It considers the attentive integration of a wide range of student needs (covering for instance housing, social, dietary and religious needs) into the learning environment as an international role model. It would qualify the quality of teaching and learning as excellent for the first year and as good for the second year. The panel therefore assesses Standard 3 as good.

*Standard 4: Staff*

The panel deems all the underlying criteria of this standard to be met, and this up to the level where the criteria regarding the composition and the experience surpass the current generic quality. The panel found the quantity and quality of the staff well adapted to deliver the M-GEO programme and in line with the international and intercultural ambitions of the programme. The panel also concludes that staff members have diverse international backgrounds and bring sufficient international experience, intercultural competences and adequate language skills into the programme. The panel considers the staff's rich hands-on experience in international projects and how this is incorporated in examples and case studies an international example. Interviewed and surveyed students also showed great appreciation of staff members' experience and involvement. Finally, the opportunities for staff professionalisation are appropriate and adequate. A centralised and future-oriented overview of intercultural and internationalisation insights and structural staff exchanges and discussions could take this to the next level. The panel therefore assesses Standard 4 as good.

*Standard 5: Students*

Based on the written materials and the discussions on site, it is clear to the panel that the highly international composition of the student body helps to bring about diverse international experiences. The panel is most impressed by the M-GEO programme's professionalism and success in building and maintaining a safe, international and intercultural community in which students actively learn to contribute to global developments in their academic fields. The programme provides a great many services, guiding students every step of the way, while from the start it provides many opportunities for students to interact in an international, multicultural environment and reflect on international(isation) and cultural differences, both within the formal curriculum and in numerous extracurricular activities. Students are strongly

facilitated to go on internships or do fieldwork abroad, but already at ITC they are sure to find an enriching internationalisation experience. This is acknowledged by the vast majority of students and alumni. The panel deems all the underlying criteria of this standard to be systematically surpassed. The dedicated services, especially to student wellbeing in every respect, can be regarded as an exemplary practice that embodies the programme's firm intention to include all students and help them reach their full potential. The panel therefore assesses Standard 5 as excellent.

The panel considers the CeQulnt assessment as the Michelin star for internationalisation. It finds that the M-GEO programme has all the ingredients for an excellent recipe, but that it can improve its conceptual side further in order to realise its full potential.

To conclude, the panel has assessed the quality of internationalisation of the M-GEO programme. It has found that the programme fulfils all criteria and all standards of the CeQulnt evaluation framework. Its overall judgement on the programme's quality of internationalisation is **positive**.

## 2. The assessment procedure

The assessment procedure was organised as laid down in the Frameworks for the Assessment of Quality in Internationalisation (Frameworks) published by the European Consortium for Accreditation (ECA).

A panel of experts was convened and consisted of the following members:

- Prof. dr L.J. (Leo) de Haan, panel chair, emeritus professor of Development Studies, International Institute of Social Studies (ISS) at Erasmus University Rotterdam (the Netherlands);
- Prof. dr ing. L. (Liqiu) Meng, professor in Cartography, Technical University München (Germany);
- Prof. dr J.M.F. (Jos) Van Orshoven, full professor and dean of the Faculty of Bioscience Engineering, KU Leuven (Belgium);
- Drs. J.A.M. (Anita) Veltmaat, certified ECA auditor, senior policy advisor International Strategy & Relations, University of Groningen (the Netherlands);
- Ir. R. (Rob) Beck, founder and CEO of NEO (Netherlands Geomatics & Earth Observation BV) (the Netherlands);
- J. (Jim) Klooster B.Sc., student member, master student Economic Geography at the University of Groningen (the Netherlands).

The composition of the panel reflects the expertise deemed necessary by the Frameworks. The individual panel members' expertise and experience can be found in *Annex 1: Composition of the assessment panel*. All panel members signed a statement of independence and confidentiality. These signed statements are available from Qanu upon simple request. The procedure was coordinated by dr Irene Conradie (consultant/secretary) at Qanu.

The assessment panel studied the self-evaluation report and annexed documentation provided by the programme before the site visit (*Annex 2: Documents reviewed*). The panel organised a preparatory meeting on 11 June 2020. The site visit took place on 29 and 30 September 2020 at University of Twente in Enschede (*Annex 3: Site visit programme*).

The panel formulated its preliminary assessments per standards immediately after the site visit. These were based on the findings of the site visit which built upon the review of the self-evaluation report and annexed documentation.

The panel finalised the draft report on 12 January 2021. It was then sent to the programme to review the report for factual mistakes. Some minor issues were reported. The panel amended the report where necessary. The panel approved the final version of the report on 12 February 2021.

### 3. Basic information

<b>Qualification:</b>	Master of Science in Geo-information Science and Earth Observation
Number of credits:	120 EC
Specialisations:	<ul style="list-style-type: none"> <li>- Applied Remote Sensing for Earth Science</li> <li>- Geoinformatics</li> <li>- Geo-information Management for Land Administration</li> <li>- Natural Hazards and Disaster Risk Reduction</li> <li>- Natural Resources Management</li> <li>- Urban Planning and Management</li> <li>- Water Resources and Environmental Management</li> <li>- Free Specialisation</li> </ul>
ISCED field(s) of study:	0532 Earth sciences; with the addition of 0731 (Cartography / Land surveying; Rural development; Surveying; Topography; Urban planning; Urban studies); 0522 (Conservation and land management); 0314 (Social geography; Human geography)
<b>Institution:</b>	University of Twente
Type of institution:	University (publicly funded institution)
<b>Status:</b>	Accredited by NVAO: Positive (06/30/2015)
QA / accreditation agency:	NVAO including distinctive feature internationalisation
Status period:	31 October 2021 (submission deadline NVAO, extension based on art 5.16 lid 4)

#### Additional information:

The M-GEO programme jointly offers three double degree and one single degree Joint Education Programmes (JEPs):

- Geo-information Science and Earth Observation, double degree with Chang 'An University, Xi'an (China)
- Geo-information Science and Earth Observation, double degree with Capital Normal University, Beijing (China)
- Geo-information Science and Earth Observation for Geoinformatics (specialisation), single degree with Indian Institute for Remote Sensing, Dehradun (India)
- Geo-information Science and Earth Observation for Geoinformatics (specialisation), double degree with Khajeh Nasir Toosi University of Technology, Tehran (Iran).

These JEPs have been set up from a capacity building perspective: they originate from partnerships with selected partner institutions abroad, aimed to develop the teaching and research capacity of the partner institute or to focus on the exchange of staff and students.

## 4. Assessment scale

The assessment-scale relates to the conclusions of the assessment panel at the level of the standards and is based on the definitions given below. Through the underlying criteria, each of the standards describes the level of quality or attainment required for a satisfactory assessment. The starting point of the assessment scale is however not threshold quality but generic quality. Generic quality is defined as *the quality that can reasonably be expected from an international perspective*.

### Unsatisfactory

The programme does not meet the current generic quality for this standard.

The programme does not attain an acceptable level across the standard's entire spectrum. One or more of the underlying criteria shows a meaningful shortcoming.

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### Satisfactory

The programme meets the current generic quality for this standard.

The programme shows an acceptable level of attainment across the standard's entire spectrum. If any of the underlying criteria show a shortcoming, that shortcoming is not meaningful.

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### Good

The programme surpasses the current generic quality for this standard.

The programme clearly goes beyond the acceptable level of attainment across the standard's entire spectrum. None of the underlying criteria have any shortcomings.

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### Excellent

The programme systematically and substantially surpasses the current generic quality for this standard.

The programme excels across the standard's entire spectrum. This extraordinary level of attainment is explicitly demonstrated through exemplary or good practices in all the underlying criteria. The programme can be regarded as an international example for this standard.

## 5. Assessment criteria

### Standard 1: Intended internationalisation

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#### Criterion 1a: Supported goals

*The internationalisation goals for the programme are documented and these are shared and supported by stakeholders within and outside the programme.*

#### Findings

The self-evaluation report outlines the internationalisation goals at ITC faculty level (described in *ITC Vision on Education*) as well as the university's vision of educating global citizens (described in *UT Vision 2020*, and its follow-up, *UT Shaping 2030*). ITC has a longstanding capacity building mission to offer educational and research activities in geospatial science and technology to individuals and institutions, particularly from parts of the world where large shares of the population have little access to technological developments.

In line with the university's and faculty's vision, the master's programme in Geo-information Science and Earth Observation (M-GEO) educates students to advance (future) technological development that contributes to fair, sustainable and digital societies around the world. Specifically, M-GEO has the ambition to provide its students with an international mindset combined with the geospatial knowledge and skills to develop transdisciplinary and sustainable solutions for challenges that are relevant to (inter)national communities. The four internationalisation goals for the programme are described in the self-evaluation report and in the document *Vision on Internationalisation*. Thus, the M-GEO programme aims to:

1. Empower students with the knowledge and skills to address challenges that are relevant to (inter)national communities;
2. Create an academic and social environment in which students feel comfortable and can grow to their full potential;
3. Nurture an international community of alumni, students and teachers;
4. Generate and exchange knowledge that inspires global development.

The programme has various stakeholders who are involved in the development and implementation of the programme, its Joint Education Programmes (JEPs), internships and MSc Research thesis projects. Representing the external stakeholders, the professional advisory board includes international experts from the field from international companies and (inter)governmental organisations, reflecting the changing paradigm now favouring an increasingly important role for the private sector in the aid-to-trade agenda. In addition, there are numerous international education and project services partnerships whereby ITC acts as a two-directional gateway for knowledge exchange. These include (inter)governmental organisations such as Nuffic, but also a range of research institutions and universities with a geospatial orientation, specifically in countries that are economically and/or technologically less developed; the JEP partners in China, India and Iran are important examples. Moreover, there is an extensive ITC alumni community, with ITC alumni associations in nearly thirty



countries. From the interviews it became clear that the internationalisation goals are explicitly shared with the professional advisory board, which is also shown in a recent meeting summary. As the professional advisory board was founded in 2019 only, the panel understands that the board has only been able to provide initial reflections. The panel learned that alumni share the internationalisation goals with the programme, which is also visible in an alumni survey from 2017.

The panel gathered from the written materials and its on-site discussions that the internal stakeholders also share and support the internationalisation goals for the programme. The programme committee - composed of students and staff members - delivered input on the internationalisation goals and continues to share its feedback on a regular basis. A survey on internationalisation was held among second year students of the M-GEO programme in 2019 and indicated that the majority of students (with an average score of 3.2 on a scale of 1-5) found the internationalisation component of M-GEO relevant to their (future) work. During the site visit, students and a JEP representative and JEP alumnus showed awareness of, and support for, the internationalisation goals. The panel considers these as indicators of students' endorsement of the programme's internationalisation goals.

#### *Considerations*

The M-GEO programme shares ITC's capacity building mission. The panel appreciates M-GEO's notion of internationalisation as a mindset and considers M-GEO's capacity building mission to be clear and very important, both for its specific contribution to understanding and solving a wide range of pressing societal problems and for its efforts in including students and institutions from parts of the world where large shares of the population have limited or no access to technical development. Based on the provided documentation and the informative discussions during the site visit, the panel believes that the internationalisation goals are adequately documented. They are in line with the goals at faculty and institutional level, yet they have been sufficiently tailored to the programme level and are well suited to a master's programme on geospatial science and technology and to M-GEO's capacity building mission. The panel found that ITC faculty has a highly internalised sense of internationalisation, and that international awareness is strongly present in all M-GEO's stakeholders, which secures support for its internationalisation goals. It expects the influence of the recently founded professional advisory board on the internationalisation goals to further increase over time. Still, the panel recommends to pursue a more diverse composition in the future. The predominantly white, all male composition does not reflect the rich diversity of M-GEO's staff and student bodies. It concludes that the programme succeeds in making both its internal and external stakeholders an integral part of the programme's intended internationalisation as evidenced by its surveys among alumni and students, its consultation of the professional advisory board, its programme committee as well as through additional visits and regular evaluation meetings.

#### *Conclusion and recommendations*

The panel concludes that the internationalisation goals for the programme are satisfactorily documented and clearly indicate the programme's ambitions. The goals are shared with and supported by stakeholders within and outside the programme. The panel appreciates how the professional advisory board is involved in the programme's deliberations and, as an

opportunity for further quality enhancement, it recommends to diversify the board's composition more, in line with the rich diversity of M-GEO's staff and student bodies.

#### **Criterion 1b: Verifiable objectives**

*Verifiable objectives have been formulated that allow monitoring the achievement of the programme's internationalisation goals.*

#### *Findings*

A first verifiable objective is the use of intended international and intercultural learning outcomes in the learning outcomes at programme and course level. The intended international and intercultural learning outcomes were introduced in the programme in 2015, and were further developed based on the recommendations of the previous assessment panel (see criterion 2). In addition, the programme provided the panel with the document *Ambition of the internationalisation goals of M-GEO* in which a total of 14 internationalisation objectives have been formulated, without further prioritising. Each of the 4 (overall) internationalisation goals lists a number of goal-specific objectives. The panel found these objectives to be concrete and geared towards the near future, with in all cases a timeframe set to 2025. It noted that some objectives include either a quantitative or a qualitative element. For instance, objective III.1.c. 'Each year 2-3 staff members have taken up specific internationalisation questions in their Senior Teacher Qualification trajectory' is measurable and corresponds clearly with the overall goal to nurture an international community of alumni, students and teachers. On the other hand, objective II.2 'ITC's new building is still a home for its international students', relating to the move to the UT campus in 2022, does not state who will be chiefly responsible or how this is to be measured in order to monitor its realisation, although it implies a benchmark with the current student appreciation of the ITC building against which future student satisfaction may be measured.

#### *Considerations*

The panel has studied the specific objectives for internationalisation and finds that they clearly correspond with the overall internationalisation goals. It concludes that some are verifiable while others need to take a more concrete shape. Despite the fact that the objectives are all well-reasoned and comprehensible, the panel recommends that, given the large number of objectives and given the need for measurability and accountability, these specific objectives should be prioritised and refined in the next few years. By refining the objectives and by, for example, putting them in a matrix that clearly assigns responsibilities, it would be easier to monitor their progress. In the abovementioned case of objective II.2, a worked example could say that, in a future representative survey, at least 70% of M-GEO students (strongly) agree with the statement that 'ITC's new building is still a home for its international students'.

The panel considers these internationalisation objectives reasonable yet challenging for fulfilling the programme's long-term ambitions. They are reasonable because they are largely within the programme's sphere of influence and tend to focus either on aspects of the programme that can be changed, or on aspects of (internal and external) stakeholders. Nevertheless, the objectives are also challenging, even if there already is a well-established international learning environment shaped by both staff and students. The panel recognises

the programme's continuing challenge to make sure that students from across the world and from very different backgrounds, who do not all start at the same time, are on the same academic page within a very short time frame. Moreover, external developments also bring their own challenges, such as the rapid technological advancement in the field and the current COVID-19 pandemic which require institutional as well as individual responses, but also the demographic changes within the programme's student population (students tend to be increasingly younger and without substantial professional experience prior to starting the programme), and other 'regular' constraints that students (as well as staff) are facing, whether personal, financial, professional or other.

#### *Conclusion and recommendations*

The panel concludes that specific objectives have been formulated but that these objectives are only partially verifiable. They are reasonable but challenging and also correspond with the internationalisation goals. The panel concludes that, after further refinement, the objectives will allow for monitoring the achievement of the programme's internationalisation goals. The panel recommends making all of the objectives measurable, adding priority, accountability and ways of monitoring, and assigning responsibilities. This would add focus and help oversee their progress.

#### **Criterion 1c: Impact on education**

*The internationalisation goals explicitly include measures that contribute to the overall quality of teaching and learning.*

#### *Findings*

The self-evaluation report showcases several measures included in the internationalisation goals that relate to teaching and learning. On the one hand, goal 2 (and to a lesser extent goal 3) are related to the programme's efforts to make the students feel welcome at ITC, at home in the classroom and part of a wider, international community. It does so by arranging a smooth application process, airport pick-up, housing, international cuisine and organising a separate introduction week for ITC students, aligned to the UT organised 'Kick-in' week, as well as various social events (see criterion 5). This contributes to a warm and stimulating learning environment that helps students to stay focused on their study programme despite their new and unfamiliar environment, and to open up more to new ideas and new cultural influences.

On the other hand, because of goal 1 (and to a lesser extent goal 4) the panel also observes that the programme aims to nurture an international mindset in its students by equipping them with skills and competences in the area of intercultural communication, interdisciplinary teamwork, leadership and collaboration, and problem solving. In this way students can come up with cross-cultural solutions that take economic, social and environmental outcomes into account and benefit various stakeholders. This in turn contributes to creating a critical mass of global citizens who support global development. From meetings with staff, management and from reading the self-evaluation report, the panel learned that internationalisation was implemented from 2017 onwards: in 2017 in the first semester core courses, in 2018 in the GCLA and Academic Skills courses and the internship, and in 2020 in the thesis. Suggestions

from the staff working group on internationalisation and the programme committee were taken into account during this implementation process. The online Study Guide confirms that many courses have formulated course learning outcomes (CLOs) that reflect the programme's intended learning outcomes (ILOs) 10 and 11, and incite students to consider their own approach/backgrounds and reflect on international and intercultural aspects related to their academic field. This was acknowledged by the interviewed students and alumni. It is further substantiated by course evaluations (especially for the GCLA course), surveys and customer feedback sessions with students.

In order to consider whether these measures contribute to the quality of teaching and learning, the panel examined the programme's definition of quality in teaching and learning. Although neither the self-evaluation report nor M-GEO's *Vision on Internationalisation* provide a definition of quality, ITC's *Vision on Education* states that 'the educational programme should be such that it keeps on offering education of the highest quality at the academic level'. It can be assumed that this is also the level of quality ITC aims for, and that this quality is delivered. This is demonstrated, for instance, by the fact that the programme has been selected as a top rated master's programme by the Dutch higher education catalogue (*Keuzegids*) for several years in a row now, and that external examiners of MSc theses come from widely renowned institutes.

#### *Considerations*

The panel noted that the programme's internationalisation goals relate to its teaching and learning. It appreciates the various measures that contribute to a warm and stimulating learning environment as well as the measures to incorporate internationalisation further into the curriculum. The panel also found that surveys serve as an important instrument to measure the quality of teaching and learning, and that survey outcomes have frequently led to further improvements. Internationalisation has already been embedded in the core part of the curriculum, and one of the programme's intentions is to also do this in other parts of the programme in the near future. The panel appreciates how these measures reinforce one another, as the attention to a dedicated learning environment that stimulates student interaction in itself supports more international and intercultural communication.

#### *Conclusion and recommendations*

The panel concludes that the internationalisation goals also relate to teaching and learning. The measures included contribute to their quality.

#### **Overall conclusion regarding Standard 1: Intended internationalisation**

The panel found that the internationalisation goals for the programme are adequately documented, that they clearly indicate the programme's ambitions and that they are shared and supported by stakeholders within and outside the programme. The verifiable objectives are reasonable but challenging and also correspond with the internationalisation goals. The M-GEO programme is mindful of promoting the quality of its teaching and learning as part of its internationalisation goals, as can be seen from the curriculum and from the surveys. The panel deems the underlying criteria of this standard to be met. It would be even better if the verifiable objectives are further optimised to ensure a more controlled PDCA cycle. The panel therefore assesses *Standard 1: Intended internationalisation* as satisfactory.

## Standard 2: International and intercultural learning

### Criterion 2a: Intended learning outcomes

*The intended international and intercultural learning outcomes defined by the programme are a clear reflection of its internationalisation goals.*

#### *Findings*

The panel observes that the programme's intended international and intercultural learning outcomes are included as two of the programme's Intended Learning Outcomes (ILOs). The M-GEO programme has translated its programme goals into a set of 13 Intended Learning Outcomes (ILOs), grouped into 4 knowledge competencies: domain specific knowledge (ILOs 1-5), scientific competencies (ILOs 6-9), internationalisation proficiencies (ILOs 10-11), and general academic skills (ILOs 12-13). The ILOs are linked to the Dublin Descriptors for the master's level. The ILOs are identical for all specialisations, as the core knowledge and skills provided to students are the same in all specialisations. The ILOs are documented in the *Education and Examination Regulations (EER)* as well as in the Appendices of the self-evaluation report.

ILO 10 and 11 deal specifically with internationalisation. Upon successful completion of the Master's programme, the student is able to:

10. Explain and contrast cultural and contextual differences that influence the collection, classification and visualisation of spatial information;
11. Operate professionally and ethically in a multi-cultural environment.

The panel sees a sufficiently clear correspondence between these two ILOs and the programme's internationalisation goals, although they are not explicitly linked in the written materials. ILOs 10 and 11 have also been translated into Course Learning Outcomes (CLOs) for several courses. The ILOs can be found in the online Study Guide, in the *Vision on Internationalisation* document and in a separate document containing all 13 ILOs. The CLOs can also be found in the online Study Guide.

#### *Considerations*

The panel has reviewed the intended international and intercultural learning outcomes defined by the programme and found these to reflect the programme's four internationalisation goals, although they could be linked more explicitly to these goals. The panel encourages the programme to demonstrate the correspondence between goals and ILO's more explicitly, and to show where and how each intended international and intercultural learning outcome fits in the internationalisation goals for the programme. This helps build a more concerted strategy of internationalisation. This is important because the two intended international and intercultural learning outcomes are the only ILOs that refer directly to internationalisation.

#### *Conclusion and recommendations*

The panel concludes that the intended international and intercultural learning outcomes correspond with the programme's internationalisation goals, although they could be linked more explicitly, which would help M-GEO build a more concerted internationalisation strategy.

## **Criterion 2b: Student assessment**

*The methods used for the assessment of students are suitable for measuring the achievement of the intended international and intercultural learning outcomes.*

### *Findings*

From the document *Overview of assessment methods in M-GEO*, the panel learned that the M-GEO programme uses a wide range of assessment methods. The assessment plan makes the alignment of the assessment system with the ILOs explicit at the programme and course level. It also provides information on the assessment formats, marking system and weight of the tests. This information on course level is also offered to students in the online Study Guide. The assessment of ILOs related to internationalisation is integrated into the regular (course) assessments and includes both formative and summative types of assessment. It is mostly based on group assignments (including self-reflection and peer evaluations), oral exams and presentations.

According to the assessment overview, the assessment of ILOs 10 and 11 occurs in three common courses (as of 2020, they become one 14 EC common course) in the first semester and one 7 EC common course in the second semester. Several specialisation courses and the (optional) internship also include assessment of ILOs related to internationalisation. The panel established that in the Mapping Cultures exercise of the Geographic Information System (GIS) core course, ILO 10 is clearly addressed, not with a summative but formative assessment, and the same holds for the other two core modules and the GCLA course. The panel found the assessment of ILO 11 more implicit. From the interviews with staff, it gathered that ILO 11 is assessed in a common data integration assignment, where students get a real case from a GIS application and reflect on how this could be implemented in their country. The map is put to broader discussions on how geospatial data are used in their professional environment, which obstacles people encounter when building trust on using data, and how data are ethically shared. The panel also found ILO 11 to be explicitly assessed in a land registration assignment as part of the specialisation course Responsible Land Administration. The strongest professional element is present in the international internship, which about 50-60% of M-GEO students pursue.

In a *Survey on Internationalisation* held among second year students of the M-GEO programme in 2019, 76% of 38 participating students indicated that 'the methods used for the assessment of the internationalisation learning outcomes were (very) suitable'. To the panel this shows considerable agreement, though it also reveals that there is room for further improvement in managing the students' expectations regarding assessments .

Additionally, the programme has recently begun to ask students in the Proposal and Thesis Writing course to 'reflect and discuss in the thesis, the relevance of the research in different cultural and international contexts, OR, present the research in an international setup, through reflecting on its utility in overarching cultural and societal differences and fostering of stakeholder partnerships' (see online Study Guide). This question is not yet assessed in the thesis defence, as the programme management is still discussing with internal stakeholders how this can best be introduced.



### *Considerations*

The panel believes that the assessment methods are varied and that, in principle, they fit the goals of the programme. It found that ILO 10 is very nicely addressed, whereas the assessment of ILO 11 was more implicit in some courses, though sufficiently clear at least in the data integration assignment. The panel appreciates M-GEO's ongoing project to integrate the assessment of these ILOs throughout the curriculum. A further improvement can be made by revealing how progress concerning the ILOs / CLOs related to internationalisation is assessed (through benchmark, rubrics). The panel also feels that more attention could be paid to making the methods and criteria more explicit, also in view of managing the students' expectations. Finally, it is very much in support of plans to include intended international and intercultural learning outcomes in the thesis assessment and to evaluate its functioning in the near future.

### *Conclusion and recommendations*

The panel concludes that the methods used for the assessment of students are suitable for measuring the achievement of the intended international and intercultural learning outcomes, though the programme can still do better in some respects. The panel recommends the programme to review exactly how ILO 11 is best assessed throughout the curriculum and to put this into consistent wording in CLOs, assignments and rubrics in order to provide a sturdier assessment basis for this ILO. It also suggests to think of ways to assess progress. For instance, the programme could systematically use rubrics for assessing progress regarding the CLOs related to internationalisation or employ a baseline test upon the students' arrival and another one prior to their graduation. Such measures can contribute to raising students' awareness of their personal development in these areas and help provide evidence of student learning growth. Lastly, the panel supports the existing plans to include intended international and intercultural learning outcomes into the thesis assessment and evaluate its functioning in the near future.

### **Criterion 2c: Graduate achievement**

*The achievement of the intended international and intercultural learning outcomes by the programme's graduates can be demonstrated.*

### *Findings*

The achievement of the intended international and intercultural learning outcomes can be demonstrated by the assignments in the common courses and indirectly, through student and alumni surveys. The panel reviewed several assignments and assessment materials from these courses and concluded that the intended international and intercultural learning outcomes can be proven. The M-GEO programme uses a targeted survey on Internationalisation among second-year students, course and end-of-programme evaluations, and alumni surveys to demonstrate and monitor the realisation of the learning outcomes. In the 2019 targeted survey, 92% of the 38 interviewed students (strongly) agreed to the statement 'During my first year at ITC, I received lectures, practicals and exercises that helped me achieve the intended learning outcomes of internationalisation'. In addition, 89% of interviewed students considered the intended international and intercultural learning outcomes relevant to their future work. In the provided document *Evaluation of students by*

*the host organisation of international internships*, various aspects of the intern's performance were evaluated including 'adaptation to professional environment' which is in partial agreement with ILO 11. Out of 37 responding host organisations, 36 qualified their intern's adaptation to the professional environment as at least good, 32 as very good to excellent.

The panel analysed the 2017 alumni survey and found that almost 30% of the respondents indicated they had a job with international or global focus. Especially the more recent graduates with less prior work experience, who often do not return to a previous employer in their home country, find a job with a more international focus. Moreover, the respondents were positive to very positive about their experience with the M-GEO study programme, and the employability rate of M-GEO graduates is more than 90%. Many M-GEO graduates come to hold relevant and influential positions in their home countries or abroad. The panel noted that the increased attention to the internship helps to prepare younger graduates for the labour market as well. The alumni interviews as held during the site visit made it clear that alumni generally felt that the programme provided them with a solid foundation from which in their respective careers can benefit.

The panel also reviewed a representative sample of 15 theses, with 4 theses from the latest cohort added later by the programme. It was pleasing to find that nearly all theses dealt with topics that are relevant from a developmental Global South – and thus international – perspective, and that most theses use international resources, that is to say, literature that goes beyond the local context in question. Incorporating the intended international and intercultural learning outcomes as explicit assessment criteria for the thesis could strengthen and make explicit this link even further. The panel is pleased to see that the programme has developed a reflection-discussion paragraph that is mandatory in the new master's thesis set-up. This paragraph reflects on the graduate's achievement of international and intercultural outcomes, and provides insight into the intercultural competences students have acquired through(out) the research process.

#### *Considerations*

The achievement of one or both of the intended international and intercultural learning outcomes (ILOs 10 and 11) is assessed in the core courses, with more emphasis on ILO 10. In the panel's opinion, the surveys provide many positive indicators that the intended international and intercultural learning outcomes are indeed achieved. Alumni and student surveys and feedback sessions, including the student chapter in the NVAO self-evaluation report, as well as the alumni interviews indicated satisfaction with the programme and overall achievement of the learning outcomes. Based on the thesis sample the panel concluded that the theses deal with topics that are relevant from an international perspective (as well as being scientifically sound), and that they use literature that goes beyond the local context in question. Finally, the panel considers the planned introduction of the reflection-discussion paragraph on the international and cultural contexts or international set-up of the thesis research a positive development that will add further substantiation to the demonstrated graduate achievement.

#### *Conclusion and recommendations*

The panel concludes that the graduates sufficiently achieve the intended international and intercultural learning outcomes. The panel's support for the existing plans to include intended



international and intercultural learning outcomes into the thesis assessment that was mentioned under criterion 2b applies here as well.

### **Overall conclusion regarding Standard 2: International and intercultural learning**

The panel found that the international and intercultural learning outcomes reflect the programme's internationalisation goals and that they are part of the assessments in the common courses of the programme. Also, the surveys, evaluations, a sample of the student work and subsequent careers of its graduates underpin the achievement of the international and intercultural learning outcomes. The panel deems all the underlying criteria of this standard to be sufficiently met. The panel concludes that areas for further improvement lie in a more explicit correspondence between the international and intercultural learning outcomes and internationalisation goals, in a broader and more articulated assessment basis for ILO 11, in assessing students' internationalisation progress, and in the incorporation of the international and intercultural learning outcomes into the thesis assessment and evaluation of its functioning in the near future. The panel therefore assesses *Standard 2: International and intercultural learning* as satisfactory.

## **Standard 3: Teaching and Learning**

### **Criterion 3a: Curriculum**

*The content and structure of the curriculum provide the necessary means for achieving the intended international and intercultural learning outcomes.*

#### *Findings*

As from 2018, the M-GEO programme was changed from an 18-month programme (118 EC) into a two-year programme (120 EC). It can be followed at ITC in Enschede or as a Joint Education Programme (JEP). The 120 EC curriculum consists of mandatory common courses (25 EC), specialisation-specific courses (28 EC), electives (22 EC), and the MSc thesis research proposal and thesis research project (45 EC). Students choose a specialisation at the start of the programme and follow the associated curriculum.

According to the programme's intended international and intercultural learning outcomes, M-GEO's curriculum should be designed in such a way that it teaches students to explain and contrast cultural and contextual differences that influence the collection, classification and visualisation of spatial information (ILO 10). It should also teach them to operate professionally and ethically in a multi-cultural environment (ILO 11). The panel studied the curriculum and course content in detail. It also discussed these with a selection of students, alumni, programme management and other stakeholders in order to assess whether the content and structure of the programme provide the means for achieving these outcomes. The panel concludes that there is a strong correspondence between the curriculum and the intended international and intercultural learning outcomes.

The programme starts with mandatory courses where all students converge, and then allows their divergence through electives, specialisations and, in the second year, individual research projects. The presentation of the thesis at the end of the programme brings students together

again. It also provides students with the opportunity to present their research findings to an international audience. Especially in the regular courses, much attention is paid to professional ethics and intercultural skills. The course content is topical and matches contemporary developments in these respects. In addition, the faculty recently established an Ethics Committee at ITC and the programme plans to integrate an ethical paragraph into the thesis proposal to further increase the attention to geo-ethics.

The student body composition is highly international and students from international Joint Education Programmes (JEPs), who follow part of the classes at ITC, contribute even further to the international composition of the classroom (see criterion 5). In this way, the classroom setting in the mandatory, elective and specialised courses allows for much reflection and debate on cultural and contextual differences. In addition, students can opt for individual internships or research projects outside their country of origin to reinforce this knowledge. Around 50-60% of students decide to do an internship. As nearly all students are not from the Netherlands, an internship in the Netherlands constitutes an international experience to them. The panel understood that a majority of students spend time abroad. In a few cases this is the student's home country, but this is not the normal procedure. Moreover, the introduction week for ITC students and various other social events add extracurricular settings to interact (informally) in an international and intercultural context.

#### *Considerations*

In the panel's view, the curriculum (especially during the first year) guarantees a great many international and intercultural encounters, both within the formal curriculum and in extracurricular (informal) settings, enabling students to steadily train and improve their skills, and thus achieve the intended international and intercultural learning outcomes. The panel is pleased with the amount of attention paid to performing collaborative research in international, multicultural settings throughout the programme. It concludes that there is a strong correspondence between the curriculum and the intended international and intercultural learning outcomes.

According to the panel, the pace of technological development in geo-information science and earth observation has gone up considerably recently (especially since around 2016). A modern geodata analyst needs to deal with issues such as privacy, the freedom and prohibition to disclose information or 'democratised' data access results (for example, non-scientific use of data may lead to debate and possibly to 'fake news') The programme staff confirmed in the interviews that these issues may be touched upon in special course elements and the panel encourages the programme to consider these aspects for any data product a student produces in his/her exercises and thesis. When addressed more explicitly, these discussions could shed light on different national and international approaches to addressing such new challenges. In this way, the programme would prepare students for dealing with cultural differences in contexts of rapid innovation. Included in ILO 11 is the attention for the need to operate ethically, and in this regard the panel applauds the increased attention to geo-ethics with the recently established Ethics Committee at ITC and the planned inclusion of an ethical paragraph in the thesis proposal.

*Conclusion and recommendations*

The panel concludes that the content and structure of the curriculum are well-designed and clearly conducive to the achievement of the international and intercultural intended learning outcomes. It recommends the programme to include information disclosure issues more prominently in the programme in order to prepare students for dealing with cultural differences in contexts of rapid innovation.

**Criterion 3b: Teaching methods**

*The teaching methods are suitable for achieving the intended international and intercultural learning outcomes.*

*Findings*

As mentioned above, much of the teaching in M-GEO takes place within an international classroom setting, particularly in the first year. A workshop on 'Education at ITC' takes place right before the start of the first classes to explain teaching and learning approaches, particularly to those students who come from different educational backgrounds.

The panel learned from the self-evaluation report that group work and discussions in multicultural groups are the leading format for most assignments related to internationalisation. In group work sessions, learners are grouped together to work on challenges in a collaborative and self-directed approach. This project-based learning method has been proven to enrich intercultural exchange and to promote knowledge transfer. The groups are composed in such a way as to mimic an international community of stakeholders with shared and conflicting interests. The teachers encourage collaborations within and between groups and stimulate engagement with relevant stakeholders from real-life practices. In addition to group work, 'flipped classrooms' and presentations further facilitate knowledge exchange between students. As the panel learned from the evaluation results provided by the programme, students appreciate the way in which these teaching methods contribute to the intercultural learning outcomes. The panel discussed teaching methods with students and alumni from the programme, who confirmed this. For instance, students who attended the Systems Approach for Management of Natural Resources course, indicated that they gained a much better understanding of sustainability from playing the Nuts Game. In this game, students are assigned roles and have to share limited resources and this helps them to experience different perspectives and consider the short-term and long-term impact of (un)sustainable behaviour. This game is a stepping stone for reflecting on how natural resources are managed in the students' home countries.

In the second year of the programme, students take electives and work on their individual research proposals and projects. As a result, the working methods mentioned above are much less present in the second year. Students are offered the opportunity to do an internship or their MSc thesis fieldwork outside their country of residence, which also allows them to expand their intercultural and international abilities. A growing number of students - currently, around 50 to 60 percent - opt for an internship, which the majority do outside of the Netherlands (in some cases in their home country).

### *Considerations*

The panel highly appreciates the way in which group work - particularly project-based learning, the international classroom and the 'flipped classroom' contribute to the achievement of the international and intercultural learning outcomes. It considers these teaching methods to be robust, well-designed and well-executed. The panel notices that these teaching methods are largely restricted to the first year of the programme due to the focus on individual research and field work in the second year. In the second year, students are offered the opportunity to do an internship or their MSc thesis fieldwork abroad, which would further enhance their international and intercultural skills. Most, but not all students choose either one or both options.

### *Conclusion and recommendations*

The panel concludes that the teaching methods are well-designed, robust and clearly suitable for achieving the intended international and intercultural learning outcomes. If this is chiefly done in the first year of the curriculum, it is for clear reasons.

### **Criterion 3c: Learning environment**

*The learning environment is suitable for achieving the intended international and intercultural learning outcomes.*

### *Findings*

The panel learned from the programme's self-evaluation report as well as from conversations with students, staff and management that M-GEO offers a dedicated learning environment. The classes accommodate between 10 to 25 students from a variety of nationalities and cultures. The small class size supports student-centred learning and cross-cultural exchange of traditions and experiences related to the geospatial topics taught. Group work and activating teaching methods, such as project-based learning, contribute greatly to a cooperative and open atmosphere. Moreover, when grouping students, the programme pays close attention to mixing various backgrounds (nationality, specialisation) in order to actively bring students into contact with other cultures, ideas and approaches. By working together on global challenges in diverse teams, students acquire intercultural skills and they learn how to handle diversity and reflect on their own personality and viewpoints.

The programme's physical learning environment consists of many student facilities (further discussed under criterion 5) that support the achievement of the intended international and intercultural learning outcomes. It includes guaranteed housing accommodation at the ITC International Hotel, which is located near the purposefully built ITC building, including its own library, international restaurant, prayer room, learning and teaching spaces, and GeoScience Lab. Here students encounter each other and work and live together in an international and intercultural setting. During the site visit tour, the panel noted that the Group Decision Room with its interactive surfaces and tangible user interfaces facilitates collaborative spatial planning and decision making. This process, which aims at exploring different stakeholders' views and, eventually, converging them into a consensus decision, is one of the approaches used to teach the intended international and intercultural learning outcomes.

The programme also makes use of a digital teaching-learning environment, Canvas, and is currently transforming the M-GEO 'core book' on Geo-information Science and Earth Observation into a living textbook (LTB). This interactive format facilitates student-centred learning. The panel also learned that the programme focuses strongly on community-building between students as well as between students and staff members, and organises social as well as educational events. All of these elements contribute to a teaching and learning culture that fosters international and multicultural learning, in line with M-GEO's internationalisation goals.

#### *Considerations*

From the documentation as well as from its conversations during the site visit with students, alumni and teaching staff, the panel acknowledged that the programme offers students a safe and stimulating learning environment where cultural barriers are lowered and much emphasis is placed on learning to get along and overcome differences. The physical, digital and social environment are all well-attuned towards the achievement of the intercultural and international learning outcomes. The panel acknowledges that ITC was a pioneer and remains a front-runner when it comes to creating and maintaining a vibrant international community, and ITC aims to hold on to its many positive aspects in (rapidly) changing internal and external circumstances. In these changing times, the M-GEO programme needs to stay on top of the game. As a point of constructive criticism, the panel points out that despite the many advantages of the 'safe space' created by the programme, it could also be qualified as a bubble hampering students from stepping out of their new comfort zone and engaging actively with Dutch society. This could add another valuable dimension to the students' intercultural experience. During the meetings, the panel invited the programme to expand its horizon more. It was pleased to hear about the programme management's ideas to move in that direction.

#### *Conclusion and recommendations*

The panel concludes that M-GEO's stimulating, inclusive learning environment is clearly suitable for achieving the intended international and intercultural learning outcomes. It was impressed by the careful integration of a wide range of student needs into the learning environment, and by the academic and social integration of new students, which creates a 'safe space' for its students. The panel encourages the programme to carry out its plans to expand the M-GEO students' horizon more by stimulating the latter to step out of their new comfort zone and engage actively with Dutch society.

#### **Overall conclusion regarding Standard 3: Teaching and Learning**

The panel concludes that the M-GEO programme meets all underlying criteria of this standard. It found that the structure and content of the curriculum, the teaching methods and the learning environment all clearly contribute to the achievement of the international and intercultural learning outcomes by all students. It considers the attentive integration of a wide range of student needs (covering for instance housing, social, dietary and religious needs) into the learning environment as an international role model. It would qualify the quality of teaching and learning as excellent for the first year and as good for the second year. The panel therefore assesses *Standard 3: Teaching and Learning* as good.

## Standard 4: Staff

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### Criterion 4a: Composition

*The composition of the staff (in quality and quantity) facilitates the achievement of the intended international and intercultural learning outcomes.*

#### *Findings*

The self-evaluation report indicates that in 2019 ITC employed 163 scientific staff members, 120 of whom devoted at least 30 percent of their time to teaching. With 250 students enrolled in ITC programmes at UT, this provides an exceptionally low student-staff ratio. From an overview of teaching staff online CVs and qualifications, the panel learned that the teaching staff is highly competent in their various fields of specialisation, with a vast majority holding a doctorate degree and many conducting research in international projects. Many staff members have large international networks and intensive contacts with international colleagues abroad. The staff composition is diverse with respect to age, gender and nationality; more than half of the scientific staff members have a non-Dutch nationality. This comfortably meets UT policy recommendations. From meetings with students and alumni and from surveys such as the National Student Survey (NSE), the panel learned that students were very appreciative of the staff's competencies and involvement in the programme.

#### *Considerations*

Based on the information that was provided by M-GEO and on the meetings during the site visit, the panel considers the quantity and quality of the staff to be good. The teaching staff is of high quality, both in terms of relevant and broad expertise and didactic skills, and staff members form a motivated team.

#### *Conclusion and recommendations*

The panel concludes that the composition of the staff facilitates the achievement of the intended international and intercultural learning outcomes.

### Criterion 4b: Experience

*Staff members have sufficient internationalisation experience, intercultural competences and language skills.*

#### *Findings*

During the site visit, the interviewed staff demonstrated adequate international and intercultural expertise and language skills. The staff showed cultural self-awareness, curiosity and an open attitude towards other perspectives through the many examples they provided from their teaching practices. These drew on the diverse international background of staff and students as well as the international experience gained in the staff's research and education projects. The staff's international experience was further substantiated by a selection of education capacity development projects undertaken between 2017-2019 (Annex 9.2), which listed 17 geospatial projects carried out in locations throughout Asia, Africa, and South America, in collaboration with other research institutions and non-profit organisations. Also,

the course materials included many recent case studies taken from international project work by staff or PhDs. To the scientific staff it is a given fact that they teach in an international context in which informal co-learning from colleagues frequently takes place and bringing in international experience is a requirement. Interviewed and surveyed students also showed great appreciation of staff members' hands-on international experience and involvement. In the 2019 targeted survey, 82% of the 38 interviewed students (strongly) agreed with the statement 'the way of teaching was suitable for achieving the learning outcomes of internationalisation'.

From the written materials, the panel learned that all staff meet English language proficiency requirements. This is also in line with the UT language policy to make English the leading language in the organisation and the leading language of instruction. Upon hiring, the university requests teachers to either show or obtain a Qualification of English Proficiency at level C1. This qualification can be obtained through the language courses offered by the UT language centre. During the site visit, students indicated their satisfaction with the English language proficiency of their teachers. Outcomes of course evaluations confirmed this.

#### *Considerations*

Based on the materials provided by M-GEO and on the interviews held during the site visit, the panel found that staff members have diverse international backgrounds and bring sufficient international experience and intercultural competences into the programme. The panel particularly values the staff's hands-on experience with international projects and how this is incorporated in examples and case studies. Similarly, it found that the language skills are well demonstrated, with M-GEO's stress on all staff meeting a standard C1 level, and through the students' positive evaluation of the quality of English spoken by staff in the classroom.

#### *Conclusion and recommendations*

The panel concludes that staff members have ample internationalisation experience, intercultural competences and English language proficiency.

#### **Criterion 4c: Services**

*The services provided to the staff (e.g. training, facilities, staff exchanges) are consistent with the staff composition and facilitate international experiences, intercultural competences and language skills.*

#### *Findings*

As discussed above, certain scientific, didactic and language competencies are required from staff members and are offered proactively. Further professionalisation is encouraged by the ITC faculty, and ITC's Education Development Unit regularly offers voluntary education seminars and courses for staff. UT also organises courses for staff on how to take an internationalisation perspective on teaching. From the discussions on site, the panel learned that about 25 staff members haven taken part in these courses. The panel appreciates their efforts, especially because the international environment is such an important characteristic of the M-GEO programme.



The panel also encountered two staff members who had carried out interesting internationalisation projects as part of their Senior University Teaching Qualification (SUTQ). The follow-up was in one case only informal, with staff informing their colleagues about the outcomes.

#### *Considerations*

Based on the documents reviewed and the meetings with staff and programme management, the panel consider the opportunities for staff professionalisation appropriate and sufficient. It appreciates the existing shared culture between staff members, with its frequent moments of informal co-learning as well as the fact that some staff members seize the opportunities that present themselves. In the panel's view, interesting SUTQ projects can really function as a leverage for innovating programmes and it suggests to embed findings from professional development courses on internationalisation in the programme. To increase the positive effect of the professionalisation activities even further, the panel recommends promoting further reflection on and development of, a shared international classroom concept, for instance through peer review sessions or courses.

#### *Conclusion and recommendations*

The panel concludes that the services provided to the staff are consistent with the staff composition. These services adequately facilitate international experiences, intercultural competences and language skills. The panel recommends to complement the voluntary courses and informal co-learning opportunities with a centralised and future-oriented overview of intercultural and internationalisation insights and how these can best be shared and discussed among staff. Structurally organising staff exchanges and reflection, for example through peer review sessions, helps to establish a shared international classroom concept and reach a shared vision and strategy for implementing relevant and new insights on internationalisation. This would also work well for staying on top of the latest technical developments.

#### **Overall conclusion regarding Standard 4: Staff**

The panel deems all the underlying criteria of this standard to be met, and this up to the level where the criteria regarding the composition and the experience surpass the current generic quality. The panel found the quantity and quality of the staff well adapted to deliver the M-GEO programme and in line with the international and intercultural ambitions of the programme. The panel also concludes that staff members have diverse international backgrounds and bring sufficient international experience, intercultural competences and adequate language skills into the programme. The panel considers the staff's rich hands-on experience in international projects and how this is incorporated in examples and case studies an international example. Interviewed and surveyed students also showed great appreciation of staff members' experience and involvement. Finally, the opportunities for staff professionalisation are appropriate and adequate. A centralised and future-oriented overview of intercultural and internationalisation insights and structural staff exchanges and discussions could take this to the next level. The panel therefore assesses *Standard 4: Staff* as good.



## Standard 5: Students

### Criterion 5a: Composition

*The composition of the student group (national and cultural backgrounds) is in line with the programme's internationalisation goals.*

#### *Findings*

The self-evaluation report indicated that the student group composition is highly international, that the students are mainly from outside Europe, with the majority of them originating from Official Development Assistance (ODA) countries such as India, Kenya, Ethiopia, Indonesia and Brazil, while China is also well represented. The overview of student nationalities provided by the programme showed that in 2017 and 2018 a total of 185 students from 29 different countries were admitted to the programme, including 2 students from the Netherlands. The international students qualify for Nuffic scholarships or receive funds from their home countries, whereas for Dutch students the higher tuition fee proves to be a major obstacle. The gender balance in the cohorts 2016-2018 and 2017-2019 was 57% male versus 43% female. Furthermore, the student group composition shows a variety of educational backgrounds, with students having at least a bachelor degree or equivalent from a recognised university in any discipline related to the master's programme, ranging from geology to architecture. Some students have working experience in a relevant field. The intake has been at a similar level over the last years, which helps to create a robust international classroom.

Students from ODA countries have been M-GEO's target population since ITC's founding in 1950. They also come from various other countries around the world. The current international diversity clearly corresponds to M-GEO's internationalisation goal of nurturing an international community. From the self-evaluation report the panel learned that the programme management also intends to achieve a better balance between men and women by giving priority to female applicants. This has had some positive effect, though it is still less common for women from the Global South to enter into tertiary education.

#### *Considerations*

The panel is impressed with the highly international student group composition of sufficient size and feels that this is in line with the programme's internationalisation goals. The fact that many students originate from ODA countries is a direct consequence of ITC's capacity building mission and of the special scholarships provided by either the Dutch government or specific funding mechanisms within the students' home countries. During the meetings, the panel briefly discussed the faculty's preliminary ideas about accommodating EU students as well. Incorporating the Global North (student) perspective could create an even more international environment, though this would probably require future structural changes to the programme that lay outside the scope of the current assessment. It does indicate to the panel, along with M-GEO's attention to gender diversity and interdisciplinarity, that the programme actively monitors the diversity of the student group composition, which corresponds to the programme's internationalisation goals.

### *Conclusion and recommendations*

The panel concludes that the highly international student group composition aligns with the programme's internationalisation goals and that this provides an excellent basis for individual students to gain international and intercultural experiences. The panel also values the programme's attention to other aspects of diversity that add valuable perspectives to the international classroom and the international community the programme is aiming for. The highly international student group composition and M-GEO's attention to diversity is why the panel considers the programme to systematically and substantially surpass the current generic quality regarding student composition.

### **Criterion 5b: Experience**

*The internationalisation experience gained by students is adequate and corresponds to the programme's internationalisation goals.*

### *Findings*

From the written materials and the site visit meetings, the panel learned that internationalisation is an integral part of the M-GEO programme. All students stay at ITC and gain international experiences in the international classroom, where they collaborate on finding solutions for global challenges, discuss different international practices and meet international (guest) lecturers. JEP students spend at least 25% of their study time in the Netherlands and their programme covers at least 60% of the in-house (ITC located) programme. Students who wish to do so, can do an internship in the Netherlands or abroad, or they can do fieldwork abroad for their MSc thesis research project. Since 2015, more than 65% of students have conducted their field work abroad, spanning over approximately 25 countries. In addition, the programme and study association organise various extracurricular events that further support the multicultural and diverse international learning community. Moreover, in 2019, students from the GCLA course organised a closing symposium by themselves. It was entitled 'Diversity and inclusion in global challenges' and addressed Sustainable Development Goals 5 (Gender Equality) and 10 (Reducing Inequality).

Students and alumni indicated in the self-evaluation report, in surveys and in their discussions with the panel that they greatly appreciate the opportunity to learn and work together in an international environment, to understand cultural differences and to reflect on their own assumptions and attitudes. The respondents in the 2017 alumni survey were positive to very positive concerning different internationalisation aspects of the M-GEO programme: 93% (strongly) agreed with the statement 'the education environment, offered by ITC, has developed an international orientation in me' and 91% (strongly) agreed with the statement 'studying with students from other countries and other cultures helped me to improve my understanding of the global problems in my field of studies/interest'.

### *Considerations*

Based on the written materials and the discussions on site, the panel found that the programme succeeds very well in offering an internationalised curriculum for students in a multicultural, diverse international learning community. It was also pleased to find that students and alumni highly appreciate their international experiences. The panel was satisfied

to learn that JEP students also spend sufficient time at ITC to acquire the intended international and intercultural competences. Furthermore, it is clear to the panel that these international experiences correspond closely with the programme's ambitions and internationalisation goals.

*Conclusion and recommendations*

The panel concludes that M-GEO students gain a rich internationalisation experience throughout the programme, in close alignment with and contributing to the programme's internationalisation goals.

**Criterion 5c: Services**

*The services provided to the students (e.g. information provision, counselling, guidance, accommodation, Diploma Supplement) are adequate and correspond to the composition of the student group.*

*Findings*

Many of the services offered to M-GEO students are organised at the ITC faculty level and aim to assist students proactively from before they arrive in the Netherlands until after their departure. These include: assistance by admission officers with the application procedure; airport pick-up service for new students; a dedicated introduction week; guaranteed housing accommodation at the ITC International Hotel, which is located near the purposefully built ITC building, with its own library, international restaurant, prayer room, learning and teaching spaces and GeoScience lab. There is research support from the faculty library and lab staff. ITC's Student Affairs Office provides information and assistance on social, cultural and medical issues (including e.g. information about studying at ITC and living in the Netherlands, visa applications for fieldwork/study excursions, and out-of-office-hours emergency/calamity service). For JEP students there is also a JEP coordinator available (one for each of the four JEPs) who is in close contact with the JEP-partner institution and who assists, for example, in organising the online thesis defence. After students graduate, the alumni office offers them the possibility to keep an alumni email address, and it ensures that the alumni community is kept up to date about the faculty and university through newsletters and social media. Alumni are approached every three years to participate in a survey about their experiences at ITC and their career path.

Because of ITC faculty's capacity building mission and M-GEO's highly international and culturally diverse student population (with an emphasis on the Global South), particular care is paid to counselling and guidance services, as is outlined in the *Study Career Counselling Policy Faculty ITC* document. These services focus on both the academic and social wellbeing of the student. For all academic-related issues, students can, throughout their study, rely on the support given by a personal mentor, an internship coordinator and the study adviser. Social integration lies with ITC Student Affairs, though the programme manager and study adviser complement this in their role as 'stage manager'. Academic and support staff work closely together to accommodate M-GEO's diverse student population. In its discussions with students and alumni, the panel noticed that mentoring and guidance are well appreciated.

The panel found the 2019 customer feedback session - with students being seen as customers - another indication of the continuing maintenance of a high service level.

In line with the European Charter of Higher Education, the M-GEO programme issues a diploma supplement explaining the degree to non-Dutch audiences and stating the nature, level, context, contents and status of the programme.

#### *Considerations*

In the panel's view, M-GEO students are offered a range of high quality services that befit the international and intercultural dimension of the programme. The panel especially values the professional, considerate and reliable support provided to an international and culturally diverse student population. The dedicated services, especially to student wellbeing, can be regarded as an exemplary practice that embodies the programme's firm intention to include students and help them reach their full potential.

#### *Conclusion and recommendations*

The panel concludes that the student services are adequate and cater well for the diverse student population's various needs throughout the entire programme. They also fully align with the programme's internationalisation goals. In the panel's view, the student services clearly surpass by far the generic standard.

#### **Overall conclusion regarding Standard 5: Students**

Based on the written materials and the discussions on site, it is clear to the panel that the highly international composition of the student body helps to bring about diverse international experiences for all students. The panel is impressed by how well the M-GEO programme succeeds in building and maintaining a safe international, intercultural community in which students actively learn to contribute to global developments in their academic fields. The programme provides a great many services, guides students every step of the way, while from the start it provides many opportunities for students to interact in an international, multicultural environment and reflect on internationalisation and cultural differences, both within the formal curriculum and in numerous extracurricular activities. Students are well facilitated to go on internships or fieldwork abroad, but already at ITC they are sure to find an enriching internationalisation experience. This is acknowledged by the vast majority of students and alumni. The panel deems all the underlying criteria of this standard to be systematically surpassed. The dedicated services, especially to student welfare, can be regarded as an exemplary practice that embody the programme's firm intention to include students and help them reach their full potential. The panel therefore assesses *Standard 5: Students* as excellent.

## 6. Overview of assessments

Standard	Criterion	Level of fulfilment for each standard unsatisfactory/satisfactory/good/excellent (see descriptions in chapter 4)
1. Intended internationalisation	1a. Supported goals	Satisfactory
	1b. Verifiable objectives	
	1c. Impact on education	
2. International and intercultural learning	2a. Intended learning outcomes	Satisfactory
	2b. Student assessment	
	2c. Graduate achievement	
3. Teaching and learning	3a. Curriculum	Good
	3b. Teaching methods	
	3c. Learning environment	
4. Staff	4a. Composition	Good
	4b. Experience	
	4c. Services	
5. Students	5a. Composition	Excellent
	5b. Experience	
	5c. Services	

## Annex 1. Composition of the panel

### Overview panel requirements

<i>Panel member</i>	<i>Subject</i>	<i>Internat.</i>	<i>Educat.</i>	<i>QA</i>	<i>Student</i>
• Leo de Haan	X	X	X	X	
• Liqiu Meng	X	X	X	X	
• Jos Van Orshoven	X	X	X	X	
• Anita Veltmaat		X		X	
• Rob Beck	X	X			
• Jim Klooster	X	X		X	X

Subject: Subject- or discipline-specific expertise;

Internat.: International expertise, preferably expertise in internationalisation;

Educat.: Relevant experience in teaching or educational development;

QA: Relevant experience in quality assurance or auditing; or experience as student auditor;

Student: Student with international or internationalisation experience;

### Chair:

Prof. dr De Haan is emeritus professor of Development Studies at the International Institute of Social Studies (ISS). His research focuses on livelihoods, social security and employment development and policies, migration patterns and food availability, especially in African communities, but also internationally. He chairs the International Accreditation Council of the European Association of Development Research and Training Institutes (EADI) and is a member of the scientific advisory board of the Institute of Development Policy and Management (IOB, Belgium). Prof. De Haan is currently working as a visiting professor at Beijing Normal University and Fudan University Shanghai (China) and is involved as a consultant with the ISS of Erasmus University Rotterdam. As a former rector of the ISS (2010-2015), he has an abundance of experience in internationalisation and in managing education. In 2019 he chaired the CeQuint assessment panel of the MSc Degree Programme in International Development Studies at Utrecht University.

### Member:

Prof. dr Meng is a professor in Cartography and head of that research group at Technical University München. She teaches Cartography, Earth Oriented Space Science and Technology, Transportation Systems, Land Tenure and Land Management, and Environmental Engineering. In addition, she is Vice President of the International Cartographic Association, and a member of the German National Academy of Sciences and the Bavarian Academy of Sciences. She also serves as external member in the university councils of Aalto University (Finland), Sichuan University (China), and from 2010-2015 at Tongji University (China). She is a distinguished researcher in the field of spatial data integration, remote sensing data mining, multimodal navigation algorithm and is active in the development of mobile map services, visual analytics, and HD mapping for autonomous driving.

**Member:**

Prof. dr Van Orshoven is full professor of Geographic Information Science & Technology and dean of the Faculty of Bioscience Engineering at KU Leuven. In addition, he is head of the Spatial Applications Division Leuven, and a member of the Leuven Sustainable Earth Research Centre. From 2005 until 2016 he was the Programme Director of the Master of Earth Observation at KU Leuven. He has been a member of several Examination Boards and currently chairs the Examination Board of Bioscience Engineering. His research focuses on Geographic Information Science, Geographic Information Technology, Geomatics, Earth Observation, Land evaluation, Soil science, Climate change, Agriculture, Forestry, Biomass and Bioenergy.

**Member:**

Drs. Veltmaat is a certified ECA-auditor. As senior policy advisor International Strategy & Relations at the University of Groningen, she is an expert on internationalisation and works on all its facets: strategy, policy, implementation and evaluation.

**Member:**

As founder and managing director of NEO (Netherlands Geomatics & Earth Observation BV). Ir. Beck supervises the strategy and product development of this company. He has over 40 years of experience in implementing and managing national and international projects for mapping and monitoring natural resources and infrastructure. NEO has developed various business concepts in 'earth observation products and services' such as: SAT5, SAT1, SignalEyes, Boomregister, and NEVASCO.

**Student member:**

Jim Klooster BSc completed his bachelor's degree in Human Geography and Urban and Regional Planning at the University of Groningen and is currently a master's student Economic Geography, also at that university. From August 2017 to January 2018 he took the minor African Development at Lund University (Sweden). At the University of Groningen, he was the treasurer of ProGeo, the association for student interests of the Faculty of Spatial Sciences, and a member of the Faculty Council. In 2019 he participated as student member in the CeQuint assessment of the MSc Degree Programme in International Development Studies at Utrecht University.

**Coordinator: dr I.M. (Irene) Conradie, project manager and secretary at quality assurance agency Qanu**

Dr Irene Conradie has a PhD in philosophy, Utrecht University. Subsequently, she worked as an Academic Skills lecturer and education coordinator at Utrecht University. After a traineeship at a financial institution, she became a credit assessor and manager Credit Risk Management. Since 2018 she has been working as a consultant at quality assurance agency Qanu. There she supports programme and research assessments as project coordinator and NVAO certified secretary, gives training sessions and contributes on projects relating to quality assurance and accreditation.

## Annex 2. Documents reviewed

- Self-evaluation report
  
- *Introduction*
- The story of Yasmina, a journey through an international master's programme
  
- *1. The documented internationalisation goals*
- 1.1. ITC Vision on Internationalisation
- 1.2. ITC Vision on education
- 1.3. Report of the Working Group on Internationalisation
- 1.4. Feedback on internationalisation from programme committee
  
- *2. Overview of the M-GEO curriculum and its ILOs*
- 2.1. Diagrammatic overview of the curriculum
- 2.2. Intended Programme Learning Outcomes of the M-GEO programme
- 2.3. Education and Examination regulations of the Faculty ITC
- 2.4. Relation between Course and Programme Learning outcomes
  
- *3. Study guide*
- 3.1. M-GEO online study guide
- 3.2. PDF document of the full MGEO study guide
  
- *4. Curricular activities where intercultural and international learning outcomes are achieved*
- 4.1. Curricular activities that explicitly address internalisation aspects
- 4.2. Education @ ITC workshop slides
- 4.3. Diversity Symposium
- 4.4. Internationalisation in NRM course (Video)
  
- *5. Student assessments which demonstrate achievement of international and intercultural learning outcomes*
- 5.1. GIS Core Mapping Cultures assignment
- 5.2. EO core internationalisation assignment
- 5.3. DI Core Internationalisation assignment
- 5.4. Global Challenges Local Action assignment
- 5.5. Overview of assessment methods in M-GEO
- 5.6. TAB instructions
  
- *6. Diploma Supplement examples*
- 6.1. M-GEO example Diploma Supplement: regular MSc
  
- *7. Student internship locations 2019-2020*
- 7.1. Overview of Student internship host organisations and countries



*8. Staff Composition and CV's*

- 8.1. Academic Staff nationalities and UFO profiles
- 8.2. Overview of Courses and Course Coordinators (CV's)
- 8.3. International staff and language Policy UT
- 8.4. 2017-2019 SUTQ ITC

*9. International or internationalisation projects related to education (last three years)*

- 9.1. Thesis projects with an international orientation
- 9.2. Selection of education capacity development projects 2017-2019

*10. Surveys*

- 10.1. Internationalisation 2019
- 10.2. Alumni Survey 2017: Graduate achievement
- 10.3. Evaluation of the common course and overall study
- 10.4. Results Customer Feedback Session ITC for M-GEO 2019
- 10.5. Alumni Survey 2017: Programme relevance
- 10.6. Final Report Alumni Survey ITC 2017

*11. Internal Quality Assurance of the education at the Faculty ITC*

- 11.1. UT Policy Framework Educational Quality Assurance (updated Jan 2017)
- 11.2. Internal Quality Assurance at the Faculty ITC
- 11.3. Programme Assessment Criteria for Internal Quality Assurance
- 11.4. PDCA at Faculty level
- 11.5. Study unit evaluations at the Faculty ITC
- 11.6. Example of a student course evaluation report

*12. Assignment and assessment matrix of internationalisation*

- 12.1. Test plans Common Courses - internationalisation

*13. Study Career Counselling Policy*

- 13.1. Study Career Counselling policy

*14. Composition of (international) student population*

- 14.1. Country of origin of M-GEO Students admitted in 2017 and 2018
- 14.2. Map of all ITC alumni 1950-2018
- 14.3. Overview of ITC Alumni (MSc and PhD) since 2004

*15. Services and Facilities for Students*

- 15.1. Student facilities
- 15.2. Student Services
- 15.3. The ITC Building as a dedicated space for international education



## Annex 3. Site visit programme

### Overview

<b>Date:</b>	29 and 30 September 2020
<b>Institution:</b>	Universiteit Twente (University of Twente)
<b>Programme:</b>	Master's programme Geoinformation Science and Earth Observation
<b>Location:</b>	ITC Faculty, Hengelosestraat 99, Enschede (the Netherlands)

### Programme

#### Monday 28 September 2020

17:00 – 19:00:	Preparatory meeting of the panel
19:00	Dinner

#### Tuesday 29 September 2020

08:00 - 08:25	Arrival of the panel at ITC
08:30 - 08:45	Welcome by Faculty Board
08:45 - 09:25	Meeting Programme management & M-GEO-presentation
09:30 - 10:30	Showcase by students of the M-GEO programme
10:30 - 11:45	Internal panel discussion
11:50 - 12:10	Meeting M-GEO Alumni (timezone dependent)
12:15 - 12:45	Lunch
12:45 - 13:00	Internal panel discussion
13:00 - 13:50	Meeting Students (including PC members)
13:50 - 14:10	Break/Internal panel discussion
14:10 - 14:50	Meeting Teaching Staff (including representatives of internationalisation services as well as PC members)
14:50 - 15:00	Break/Internal panel discussion
15:00 - 16:15	Site visit tour
16:15 - 17:00	Consultation hour
17:00 - 17:45	Internal panel discussion – programme management available for questions
17:45 - 18:30	Travelling to the hotel / restaurant
18:30	Dinner

**Wednesday 30 September 2020**

08:15 - 08:30	Arrival of the panel at ITC
08:30 - 09:00	Meeting a JEP partner and alumni (IIRS) (timezone dependent)
09:00 - 09:20	Meeting JEP Programme Coordinators
09:20 - 09:30	Break/Internal panel discussion
09:30 - 10:10	Examination Board
10:10 - 11:15	Internal panel discussion
11:15 - 11:45	Final interview with Programme Management/Education Management
11:45 - 12:30	Deliberations panel (formulating preliminary findings and conclusions)
12:30 - 13:00	Lunch
13:00 - 13:30	Initial feedback to the management, closing of formal site visit
13:30 - 14:15	Development dialogue
14:30 - 14:45	Panel presentation of preliminary findings to staff and students
14:45 - 15:30	Drinks
15:30	Departure

For privacy reasons, the names of the programme's delegates are not included in this report. The names are known to the secretary of the assessment panel.



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