

Project form for faculty plans: International Classroom project

General information	
Project title	The implementation of the framework of International classroom into Bachelor programmes of FMNS
Intended start date	1rst of January 2017
Intended period (1-2 years)	3 years
Budget requested (max. € 100.000 per faculty/50% faculty match)	
Faculty contact person	
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Project plan	
<p>Summary (max. 150 words):</p> <p>The aim of this project is to develop criteria, requirements, guidelines and good practices for implementing the framework of International Classroom into the curricula of science and engineering programmes. The project involves the development of the formal, informal and hidden curricula of the programmes of Industrial Engineering and Management, Physics and Computing Science. In addition, activities are organised to stimulate and facilitate the Faculty-wide communication and dialogues about internationalisation of science and engineering education. The results are disseminated in professional development activities and meetings for teaching staff and assistants.</p>	
<p>The Why</p> <p>1. Faculty vision on internationalisation 2016-2020</p> <p>For decades, FMNS research has leveraged the high level of diversity of the faculty staff, both in terms of discipline and cultural background (interdisciplinarity, high level of international experience of local staff and high percentage of international staff). It is now time to fully integrate this diversity in all the aspects of faculty life, so to become a truly international faculty and to pioneer for a globalized society. Considering the wide FMNS English-taught programme offer, the next logical step to take in education is an internationalisation of curricula that goes beyond a change in the language of instruction. Attracting international talent to our programmes may foster a renewed, vibrant atmosphere in the classroom. However, this must be complemented by a new focus and perspective at the teaching practices and learning outcomes, to make them a tool for the development of a new generation of globally employable citizens and international researchers.</p> <p>Because of the highly collaborative nature and the global scale of scientific research (both in the academic and private sectors), we feel the urgency to add a new dimension to our teaching and learning practices. The universal scientific contents must be complemented by the development of a collaborative attitude in an intercultural and interdisciplinary context, and this must be accessible to all students.</p> <p>More specifically, the FMNS believes the following aspects are the most relevant to define a truly science and engineering international classroom (IC) and curriculum, and that this must be valid for all FMNS degree programmes:</p> <ul style="list-style-type: none"> • All students are able to start their degree programme, as far as possible, “on the same page”, in spite of the limitations imposed by the diverse cultural and educational background in the classroom. • Teachers and students recognize the diversity of learning methods, communication styles and cultural backgrounds in the classroom are able to work with it. 	

- The development of intercultural competences is made explicit and included in the learning outcomes of all programmes.
- Students develop as individuals in a collaborative environment and learn to work in (interdisciplinary) teams, as it naturally occurs in academic research and the private sector.
- Students are aware of the impact of their role as professionals (as academic researchers or employees in the private sector) of a specific discipline and develop their professional ethics.
- Students develop as professionals with worldwide employability.
- Teachers commit themselves to actively eradicate any gender bias in science and engineering teaching (hidden curriculum).
- All aspects of the informal curriculum (introduction days and study associations activities) actively foster inclusion.

We believe the FMNS vision complies with the UG vision and IC-framework as in the following definition:

International Classroom at UG:

- A group of students from diverse backgrounds (in culture, education, experience)
- Working from a vision/rationale on internationalisation
- Working effectively with student and staff diversity through “purposeful interaction”
- Including the overall learning environment (formal, informal and hidden curriculum)
- With appropriate support for staff and students in a multicultural and multilingual environment.

In addition to this, the FMNS will support the participation of international staff and students in governance at all levels (study associations, programme committees, faculty council, administration, management). A dual **language policy** will be the key factor for enabling **inclusion**.

FMNS’ long and strong tradition of (Dutch) student **participation** in the governing bodies and the inclusive policy of FMNS study associations will be important elements that will stimulate the participation of international students.

Support services for students (from enrolment to education support services) and the activities included in the informal curriculum (events and programs organized by the university but not accredited in the program of study) will be required to be redesigned in conformity to the diversity within the student body. This has partially been implemented earlier (at the moment of the introduction of 10 international Bachelor’s programmes in 2013), but needs to be refined and extended.

At the level of FMNS research institutes, an effort will be made to professionalise the support services for international staff, by offering secretarial staff room and tools for development of their language and intercultural competences.

2. Current situation (strengths and weaknesses)

Based on an internal SWOT-analysis (see appendix) can be concluded, that the high internationalisation level of the FMNS -in terms of language of instruction and staff is currently both strength and weakness to the faculty. For example, issues like intercultural sensitiveness are taken for granted, and are being reflected upon only by a handful of teachers in two of the 13 undergraduate programmes: Industrial Engineering and Management (IEM) and Computing Science (CS). There is a need to increase awareness.

In 2014, IEM and CS participated into the university-wide IC pilots conducted by Franka Franka van den Hende and Kevin Haines. The report can be found in the Appendix. The recommendations of the pilot, has been the following:

- Extend good practices beyond course and program level – as catalysts.
- Build on many strong points and things that seem to go naturally.
- Focus on the internationalization of curricula as part of periodical, critical curriculum reviews.
- Continue to include the informal curriculum and networks to further build an international faculty (student associations, outside class activities, international networks, alumni and professional field, support services).
- Give appropriate support and resources to staff and students; in particular for support staff and for student teaching assistants (make use of institutional policies and resources).

- Creating favorable conditions for student and teaching staff exchange within the curricula.
- Link with points for improvement from accreditations, in particular employability and career planning, enrolment and “yields” (rendementen).
- Embed language development and development of intercultural competences in international programs.
- Continue and further build on formal and informal monitoring and evaluation.
- Build on ideas of “renewable thinking” and learning communities approach to further build an international, inclusive, innovative faculty environment.

This plan wishes to start from refining and redeveloping the undergraduate programme, a training for teaching personnel and teaching assistants, while at the same time creating the vehicle (the training itself) for awareness of the IC principles at faculty level, beyond the experiences of the degree programmes that have previously been involved in the pilot. The implementation of the IC-framework as a start provides opportunities to achieve these goals.

The renewed attention for a truly international classroom is currently being paralleled by an interest in new pedagogic approaches, such as Learning Communities, Team and Project-Based Learning (T/PBL), meaningful interaction, active learning, use of debate groups. As the science and engineering IC vision (refer to previous section) will be funded on the principle of collaborative learning across cultures and disciplines, **the FMNS sees the exploration of new didactic methods at faculty-wide level and the development of an international curriculum for all degree programmes as both an opportunity and inevitably interconnected.**

Currently, two learning community projects are being developed at IEM and Physics. The approach described in this document takes this factor into account, at the same time looking beyond the level of the individual degree programmes.

The aim of this project is to develop criteria, requirements, guidelines and good practices for implementing the IC-framework into the curricula of undergraduate programmes. FMNS choses to focus first on the undergraduate programmes, and then a faculty-wide perspective will be sought. The framework will first be implemented in the programmes of IEM, Physics and CS, since these programmes participated in the earlier pilot and/or are currently implementing Learning Communities. The results of the project will involve criteria, requirements and good practices regarding the internationalisation within science and engineering programmes. In addition, the project involves activities to disseminate these results among the other programmes of FMNS.

Approach

The project involves three phases: 1. Development, 2. Implementation, 3. Evaluation & Dissemination. The phase of development takes place in the academic year 2016-2017, the phase of implementation in 2017-2018 and the phase of evaluation takes place in the year the academic year 2018-2019. The approach and activities in each phase are described in work packages. In addition, the project involves work packages regarding 4. Sustainability and Dissemination of results and 5. Project organisation

WP1. Development

Within each programme a curriculum committee (CC) will be installed. The CC consists of international/multicultural teaching staff, (international) students representing their study association, and an educational developer/coach. The CC will be required to develop a plan to embed the IC-framework into the formal, informal and hidden curriculum of the programmes. The coach will guide and facilitate the CC in developing the plan. The programme coordinator and advisor will provide information based on their experiences that could be used as input for developing the plan.

The first task of the CCs is to conduct a problem analysis regarding the internationalisation of the bachelor programmes within FMNS. The results of the pilot study and the SWOT-analysis will be used as input. The problem analysis will concern several aspects of the internationalisation, such as the inclusion of international students into the Dutch academic system, the level of English among and students, the global orientation of the course content, and so on. These aspects will relate to different organisational levels, such as programme level, Learning Community (LC)/ Track level and course level. In additions, these aspects could concern students, teaching staff, educational supporting staff and

management.

Based on the problem analysis, the CCs will describe a profile towards globally employable citizens and international researchers, including competencies and attitudes of the ideal graduate of their 'international' bachelor programme of FMNS. In a next step the CC will inventorise how the implementation of the IC-framework in the formal, informal and hidden curriculum, could support students' development to meet this profile.

Formal curriculum

To embed the framework into the formal curriculum, the first step is to relate/translate the general keys and strategies/principles into meaningful 'building blocks' for curriculum design in academic science education. The second step is to use these 'building blocks' to reformulate the learning outcomes of the programme and to set criteria for assessing these learning outcomes, for example in a Rubric. The third step is to assess how the learning objectives of the courses match the 'new' learning objectives of the programme, for example in a cross-table, so that gaps in the curriculum can be identified. Based on these gaps, suggestions and actions will be described to realign the curriculum on course, LC/Track and programme level and to redesign courses including teaching methods, lesson material and assessment instruments.

Informal curriculum

The faculty study associations play an important role when embedding the keys and strategies provided by the IC-framework into the informal curriculum. The associations create an informal study landscape or environment in which social and extracurricular activities are organised related to the study programme. The IC-framework provides keys and strategies which are perfectly suitable to be embedded in this study environment..

In the case of IEM, the learning communities are organized at the interface of formal and informal curriculum. The learning communities are part of the study environment, in which students have high degree of ownership and self-regulation to organize (extra curricular) learning activities and build up a portfolio about their development of competencies related to the specific phase and courses of the programme. The CC will discuss on how the keys and strategies of the IC-framework can be embedded into IEM's learning communities. This will result in suggestions and actions for creating international informal study environment.

Other study programmes have similar intermediate organisational levels between programme and course level in which the students are divided into sub-groups, such as tracks, cohorts or mentor/tutor groups. For these programmes, these organisational structures could be useful to implement the keys and strategies of the IC-framework into the informal curriculum.

Hidden curriculum

The hidden curriculum represents the study culture, including norms, values, habits, beliefs and attitudes among staff and students of a specific discipline or Faculty. As this part of the curriculum is implicit in nature, it is not possible to embed the IC-framework explicitly. To be able to influence the culture, it is important to stimulate communication about the characteristics and aspects of internationalisation and globalisation in general and within the specific research discipline. In addition, discussions should be stimulated about how internationalisation and globalisation affects and influences the academic culture in general and within the Faculty. The Faculty benefits from the high proportion of international staff members teaching within the programmes. They can play an important role in the discussions and dialogues.

Communication and discussions will be organized and facilitated in relation with the activities of the CCs. However, this will be limited to the staff and students of the participating programmes. To 'change' a culture the communication and discussions need to be organised and facilitated Faculty-wide. Therefore, within this project we will organize Faculty-wide meetings, such as roundtable

sessions or staff lunches, in which staff members will discuss several aspects of internationalisation and globalisation of the academic study programmes of FMNS on the basis of concrete aspects, subjects and dilemma's. Guest speakers will be invited to introduce specific subjects and dilemmas regarding the International Classroom and participate in the discussions. These meetings will be organized by educational experts of the Undergraduate School of Science. More about the Faculty-wide activities organized within this project will be described in relation to the dissemination of the project results.

The cross-disciplinary character of the project and good practices will be guaranteed in three ways:

1. The coaches of the CCs will have regular meetings to discuss the progress and products of the CCs. The content of the plans will be compared and adapted when necessary. New ideas for curriculum changes, organisation of activities or the formulation of learning outcomes will be shared.
2. During the preparation phase, meetings will be organised in which the members of both CCs together share and discuss the IC-framework, the embedding of the keys and guidelines into the learning outcomes of the programme and the learning objectives of the courses, and ways in which students and staff members could be supported to achieve these goals and objectives.
3. The Faculty-wide activities to stimulate and facilitate communication and discussions about how the internationalisation and globalisation affects and influences the academic culture in general and within the Faculty.

Activities, Milestones & Deliverables

- 1.1 Presentation of international guest speakers in staff lunches of the participating study programmes. (Month 1)
- 1.2 Installation of Curriculum committees in the programmes of IEM, Physics and CS. (Month 5)
- 1.3 A plan for each programme to embed the IC-Framework in the formal, informal and hidden curriculum. (Month 10)
- 1.4 Presentation of the plans in the staff lunch of the specific programme. (Month 10)

WP2. Implementation

In the implementation phase the plans developed by the CCs will be implemented. The implementation will involve the redesign of courses, the organization of activities within the study environment, and the organisation of Faculty-wide activities as described. In addition, staff and students will be supported and facilitated in performing the activities when necessary. The support for staff members could consist of professional development activities in course design, teacher trainings, coaching, and so on. The support for students could consist of supervision, mentorship and coaching in organizing (learning) activities and inviting guest lecturers within the study environment regarding the International Classroom.

Activities, Milestones & Deliverables

- 2.1 Installation of student committee regarding the international classroom. (Month 12)
- 2.2 Meetings with the student committees to organize learning activities within the study environment. (12-24)
- 2.3 Meetings with course coordinators to redesign courses as described in the plan (Month 13-24)

WP3. Evaluation

In the third year of the project the process and activities, products and results will be evaluated. The evaluation will be carried out using criteria based on international criteria (e.g. CeQuint) and standards, literature about internationalisation of study programmes and requirements as set by the IC-project team of the University of Groningen. Data collected consist of interviews with stakeholders in the

project, observations during the many activities organized within the project and the management reports and other documentation of the process and results of the project. The evaluation will result in a list of requirements, guidelines and good practices to embed the IC-framework into the academic study programmes of FMNS.

Activities, Milestones & Deliverables

3.1 Evaluation plan, including criteria, methods and instruments (Month 5)

3.2 Data collection. (Month 5-30)

3.3 Evaluation report, including a list of requirements, guidelines and good practices to embed the IC-framework into the academic study programmes of FMNS. (Month 36)

WP5. Project organisation

For a successful implementation of an innovation three conditions need to be created: Authority, Infrastructure and Consensus. These conditions are represented in the organizational structure (see Figure), the stakeholders, their roles and activities. This will be elaborated in this section.

This project is conducted under the umbrella of the Faculty-wide steering committee of internationalisation. The project organisation consists of the committee 'International Classroom' (IC-committee) and project team.

The steering committee provides the 'Authority' to support the project team to perform the activities within and beyond the programmes. The relevant stakeholders in the steering committee are the vice Dean (Dean of education), the Directors of the Undergraduate and Graduate Schools, the student Assessor and the Policy Advisor for internationalisation.

The IC-committee and the project team provide the infrastructure to support the curriculum committees, teaching staff and student associations to develop and implement the IC-framework into the programmes of IEM, Physics and CS and disseminate the results of the project Faculty- wide.

The IC-committee consists of the programme directors of IEM, Physics and CS and an international master student from one of these programmes. This committee acts as sounding board for the project team. In addition, the committee keeps overview on curriculum development activities within the programmes and plays a role in sharing and dissemination of experiences, products and results within and beyond the programmes.

The project team conducts, guides and facilitates the project activities within and beyond the programmes. The project team consists of:

- Three domain-specific educational experts for IEM, Physics and CS to guide the curriculum committees and teaching staff/ student associations in developing and implementing the plan to embed the IC-framework into the curricula of the undergraduate programmes.

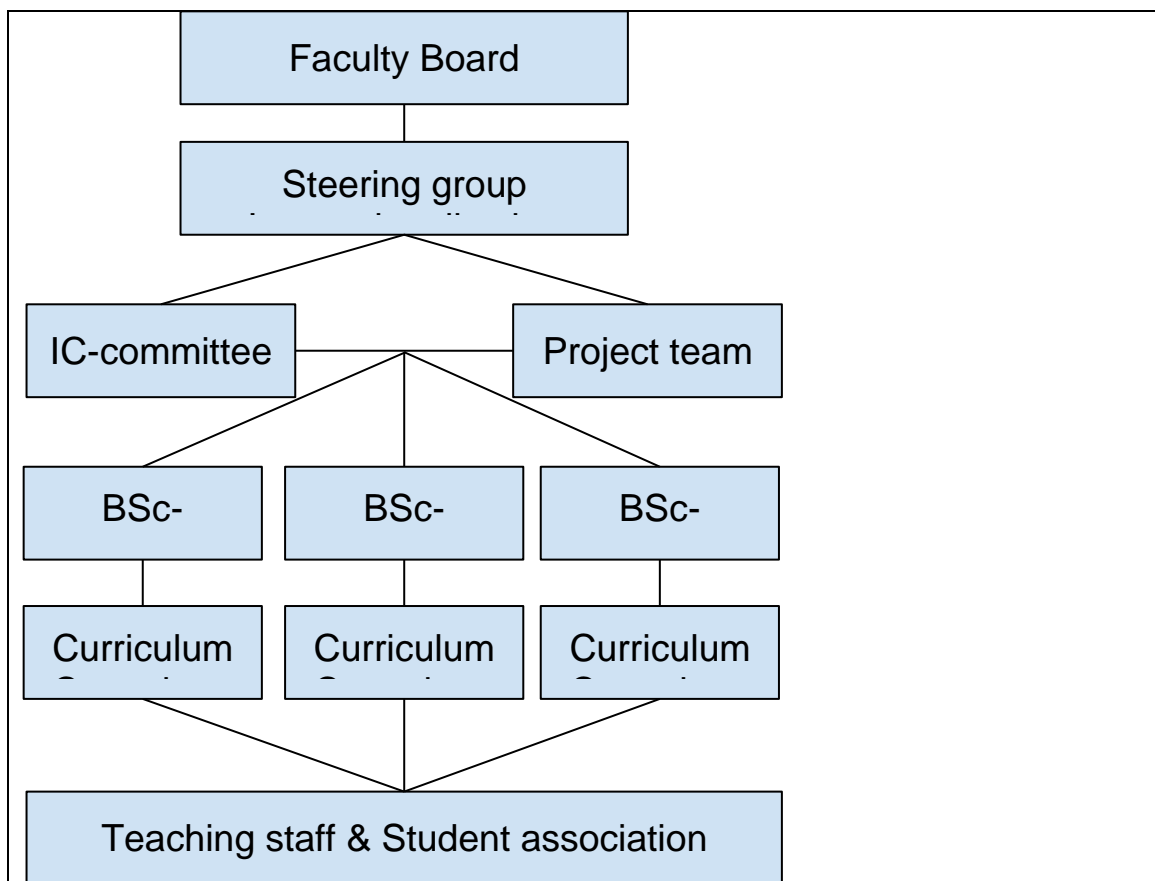
- Educational developer(s) to reformulate learning objectives and redevelop courses, lesson material, and assessment instruments according to the plan.

- Administrative coordinator to support the project team in writing reports, planning meetings, archive documents, and preparing dissemination activities.

Consensus at any time about what and how to achieve the goals within this project, will be guaranteed in the regular meetings between the chairs of the steering committee and of the project team. On the meetings the current status and progress of the project will be discussed. In addition, twice a year a meeting will be planned with the project team and steering committee together, in which the stakeholders discuss the progress and mutual feedback is provided.

Organisational structure

The figure represents the organisational structure of the project.



Additional expertise and support

We would like to invite Wendy Green and/or Craig Whitsed to introduce the ideas of the International Classroom during staff lunches of the programmes in September 2016. They could give a presentation and lead a discussion about the ideas and concepts. In addition, we would like to use the expertise of ESI and other experts, when it could contribute to the work and activities of the curriculum committees, to the redevelopment of courses, and/or to the discussions during the Faculty-wide staff lunches.

Activities, Milestones & Deliverables

- 5.1 Installation project team and IC-committee. (Month 1)
- 5.2 Monthly meetings of the project team. (Month 1-36)
- 5.3 Quarterly meetings of the IC-committee. (Month 1-36)
- 5.4 Half yearly meetings of the steering committee. (Month 1-36)
- 5.5. Management report 1. (Month 12)
- 5.6. Management report 2. (Month 24)
- 5.7. Management report 3. (Month 36)

WP4. Sustainability and Dissemination

These results will be disseminated at all levels of the Faculty. The good practices will be shared in workshops that will be organized for new lecturers and teaching assistants in the University Teaching Qualification course (UTQ) and the Training Teaching Assistants (TTA). After the project the Faculty wide staff lunches will be continued to discuss current and future developments and innovations in academic teaching and education. The aspects of the international classroom will be periodically be part of the agenda for discussions. The good practices will be used to develop policies regarding the internationalisation of all study programmes.

In addition, the project team will disseminate the results by contributions for international conferences. Presenting the results at conferences will lead to discussions with and feedback from international

audience about the implementation of the IC-framework and the ideas and concepts of the International Classroom in general. This will provide valuable input for the Faculty about the internationalisation of the programmes of FMNS.

Activities, Milestones & Deliverables

4.1 Faculty wide staff lunches to discuss about how the internationalisation and globalisation affects and influences the academic culture in general and within the Faculty. (Month 3-36)

4.2 Workshops International Classroom during the University Teaching Qualification (UTQ) and Training Teaching Assistants (TTA). (Month 24-36)

4.3 Policy document 'Internationalisation of academic programmes within FMNS' about the implementation of the International Classroom within the Faculty. (Month 36)

4.4 At least one contributions per year at an international conference about science education. (Month 12-36)

Synergy with Language & Culture Policy (LCP) and/or Learning Communities Project (LC)

This project has synergy with both the projects of LCP and LC project. Through the international classroom project, intercultural competences development (now a key aspect of the LCP) will become an important element of curricula and will be integrated in current teaching practices. The dual language policy and intercultural competencies will be taken into account when curriculum committees describe a profile of the ideal graduate, develop the learning outcomes of the programmes and propose actions to redevelop courses and organise activities in the formal and informal curriculum.

In addition, the informal study environments, including learning communities, will have an important role to foster the creation of an inclusive environment within the programmes. The activities organised in the informal curriculum will take place within this environment. In case of Physics and IEM, the activities will take place mostly within the learning communities.