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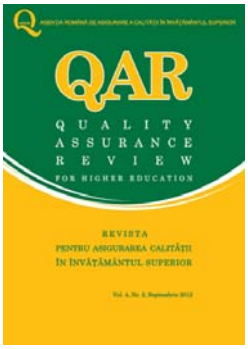

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The internal evaluation of international master programs. The case of the West University of Timisoara

Liliana Donath, Dana Petcu, Daniela Zaharie, Monica Boldea, Paula Crăciun, Emoke Feder

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The internal evaluation of international master programs. The case of the West University of Timisoara

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Abstract: *The internal evaluation of study programs is a prerequisite for the self evaluation process. Its results support the SWOT analyses required by the improvement of study programs including the ones taught in foreign languages. Such an approach allows coordinators and teachers to permanently update the curricula and syllabi making their contents even more relevant for the beneficiaries of the programs (i.e. students and companies). The quality assessment of international master study programs at the West University of Timisoara (WUT) is based on the quality culture paradigm in higher education, as an intrinsic part of organizational culture and is mainly driven by the need to ensure the effectiveness of the study programs from academic as well as financial point of view.*

Keywords: *evaluation, effectiveness, quality assessment, master study, curricula.*

Rezumat: *Evaluarea internă a programelor de studiu reprezintă o cerinţă a procesului de evaluare internă. Rezultatele evaluării susţin analiza SWOT necesară îmbunătăţirii programelor de studiu inclusive a celor predate într-o limbă străină. O asemenea abordare permite, directorilor de programe şi cadrelor didactice, o monitorizare şi o permanent îmbunătăţire a planurilor de învăţământ şi a fişelor de disciplină, astfel încât conţinutul acestora să devină din ce în ce mai relevante pentru beneficiarii acestora (studenţi şi angajatori). Evaluarea calităţii masteratelor internaţionalizate, în cadrul Universităţii de Vest din Timişoara, se bazează pe paradigma culturii calităţii în învăţământul superior, ca parte intrinsecă a culturii organizaţionale, fiind determinată, în principal, de eficacitatea academic şi financiară a programelor de studiu.*

Cuvinte cheie: *evaluare, eficacitate, evaluarea calităţii, studii masterale, curriculum.*

1. Introduction

The quality assessment of international master study programs at the West University of Timisoara (WUT), is based on the quality culture paradigm in higher education, as an intrinsic part of organisational culture. Quality culture in universities can be regarded as a mirror reflecting the competitiveness of the study programs (Berings, 2010). Berings describes the reflected image of quality culture in a holistic manner, based on six pillars. Such an approach allows the stakeholders to compare the actual state of the university with a benchmark. The outcome may be relevant to define the propensity towards culture and the cultural perception of the academic community. Finally, the resulting gap shows whether the organisation is prepared to change. Literature and pilot studies reveal that a propensity towards a higher quality culture is characteristic for research and innovation oriented academic communities.

The main categories of academic communities that can be identified are: *conservative*, *traditionally oriented*, supporting the creativity and self determination of human resources; *systemic oriented* communities based on hierarchical structures, favouring standardization, planning and

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programming; *socially oriented* communities that share mutual interests and social problems solving oriented; *academic* communities oriented towards professionalism favouring the highest competences (these entities often serve as benchmarks for evaluation). But, irrespective of the quality culture approach, the actual trend is to focus on *the learning outcomes* as effectiveness indicator. Though this paradigm is quite new, quality assessment agencies make efforts to use this standard as a major reference in the evaluation process of the universities. The WUT follows this trend, its view on the effectiveness of education and research is given in Figure 1.

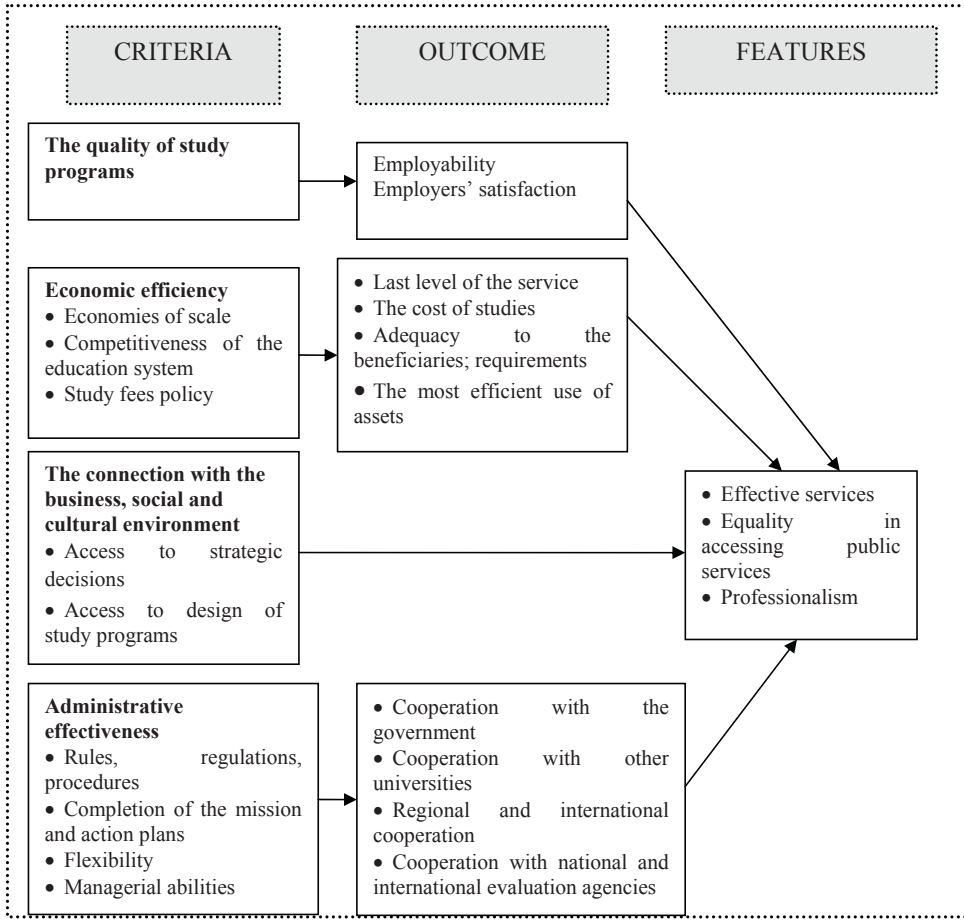


Figure 1 The WUT's view on the effectiveness of education services

According to Figure 1 the effective management principles rely on the planning and programming of all the education, research and support activities that are meant to enhance financial efficiency. Consequently, the outcome of learning and research becomes the most important quality indicator in evaluating the study programs. But, the difficulty in quantifying *the outcome* relies on the fact that its nature is immaterial and is strongly influenced by tastes and preferences. Therefore, for the time being it is preferable to use the concept of *added value,* meaning the enhancement of knowledge through higher competences, and professionalism graduates are endowed with.

Nevertheless, the *outcome* should become quantifiable as to allow a correct and realistic evaluation of the study programs: a) inputs should be consistent with the meaning of *the outcome,* b) its relevance for the labour market, c) professional and teaching competences of academics (Biggs & Tang, 2007). Last, but not least, learning outcomes should meet the requirements defined by the Alumni association and the employability of graduates.

The interpretation of quality standards ISO:9001:2008 for higher education

In the absence of relevant parameters to assess *the learning outcomes*, the alternatives WUT considers are:

a. Internal quality assurance based on standards

b. External evaluation by national and international quality agencies

The internal quality assessment in the WUT mainly consists of the monitoring of study programs and of the internal auditing procedures. The monitoring procedure of study programs takes place every three years at each learning department in order to quantify the assess the quality of the all the study programs against the certain benchmarks. The aim is to evaluate whether the program answers the students and employers' expectations (as main beneficiaries).

The auditing process regards mainly the management procedures and the way it supports education and research. It is a holistic approach considering that quality based study programs are founded on efficient procedures. Following the audit, faculties and departments set up an action plan to improve their activity according to standards. The WUT adopted the Quality standards ISO:9001:2008 that were adjusted for higher education. This approach was embraced given that it allows an in depth SWOT analyses, the risks identification and management. Most importantly it allows the traceability of each step.

According to the definition given by the ISO:9001:2008 quality standards „*the system of academic output"* reunites independent teaching, learning, research procedures supported by human, tangible, financial, software, informational assets that aim for a high learning outcome. By using this standard, the WUT demonstrates its will to offer the highest possible education consistent with the higher education qualification classification, in order to meet the requirements of the economic, social environment; on the other hand the beneficiaries satisfaction is pursued consistent with the applicable rules and regulations.

The *output* of higher education is *knowledge* provided through: *competences, the research results, consultancy, expertise, knowledge transfers, networking and joining national and international higher education bodies.*

The beneficiaries of the educational outcome (the clients) are the students and the stakeholders that have their own expectations. From a quality point of view, identifying there requirements should be the starting point of any quality assessment. By monitoring the study programs, the WUT carefully watches the *added value* of a study program as compared to the previous academic tier: bachelor – master's – doctoral study programs. The monitoring also envisages the improvement of the teaching methods, mainly the student centred learning, self study and tutorship. In its endeavour to improve the quality of the study programs, the WUT feels responsible towards the community, aiming to become the promoter of its economic, cultural and social wellbeing. Therefore, the WUT adopts the corporate governance principle by constantly pursuing excellence, competence, credibility and accountability for the funds that are employed. Figure 2 shows that all the stakeholders are important and should play their own part in reaching the best results.

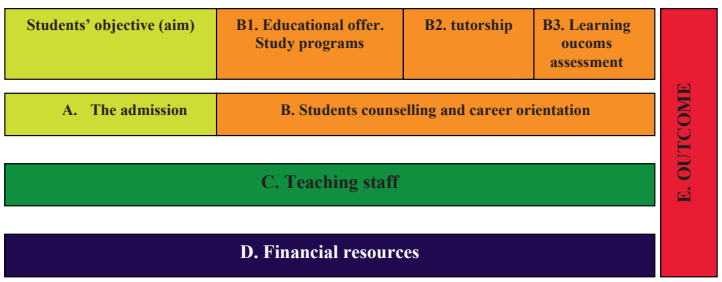


Figure 2 The stakeholders and the academic outcome

Table 1 refers to the interpretation given to the ISO: 9001:2008 standards for higher education. The main objective is the accountability towards the beneficiaries and risk management.

Table 1. The interpretation of ISO: 9001:2008 standards for higher education

Criteria	Description		
	Knowledge and competences	Study programs/ Lectures	Research
The outcome	Information based competences, added value knowledge	The contents of study programs, lectures and seminars	Breakthrough knowledge
The beneficiaries	Businesses, cultural, social, professional bodies, Alumni organisation	Students (bachelor, master, doctoral	Businesses, cultural, social, professional bodies
Provider	University/faculties/ Departments	The department	Researchers, Research centres
Executive management	Executive management of the university (rector, vice rectors), executive management of faculties (dean, council), heads of departments	Teaching staff, students departments, international department.	Executive management of the university (rector, vice rectors), executive management of faculties (dean, council), heads of research and project departments
Designer of the program/ planner	Academics and stakeholders	Teaching staff	Academics and researchers
Input	Previously acquired knowledge	Study programs/ curricula/syllabus	Theoretical and practical know how
Added value	Newly acquired knowledge and competences	Updated contents of Study programs/ curricula/syllabus	Research output and outcome

Case study 1: Monitoring study programs

The constituting faculties of the WUT have the responsibility to initiate the study programs. In order to answer the qualitative requirements, study programs should meet the following criteria:

1. **The level and addressability of the program.** Study programs are differentiated on three study tiers: bachelor, masters, doctoral. The *level* is an indicator that reflects the relative demand, the complexity, and the teaching/learning autonomy.
2. **Progress.** Academic study programs incorporate added value for consecutive study levels. Consequently, the design of the curricula should trigger intellectual thinking and creativity, self study, breakthrough knowledge (at doctoral level).
3. **Balance.** The curricula should enhance personal development, providing the information requested by certain competences that are consistent with the labour market expectations. The syllabus contains the learning requirements, the evaluation method and final outcome.
4. **Flexibility.** Study programs should allow a number of elective trans-disciplinary curricula

within the university or the consortium. Coherence ensures the logical rout of learning from the basic knowledge to breakthrough findings.

5. Integrity. The study programs meet the expectations of all the stakeholders.

6. Standards and references. Study programs are constantly compared with those offered by other universities in order to ensure the harmonisation of the knowledge and competitiveness.

The monitoring process of study programs at the WUT is based on self evaluation so that all the parts involved becoming aware of the strong points, weaknesses, opportunities and threats. The monitoring is procedure based following the steps required by the *Standard:* It sets the *aim* of the process, the *document to refer to,* all the *parties* involved, the *steps* that are to be followed, the *responsibilities*, the standardised documents to be filled in, the outcome and resources. The monitoring procedure of study programs is exemplified in the Table from appendix for the Smart nano-microsystems, Physics of crystalline materials, Artificial Intelligence and Distributed Computing (AIDC).

Case study 2: The audit

The opposed to the study program's monitoring the audit takes place on a yearly basis. It involves a complex, dynamic procedure and regards the permanent adjustment of various entities as a response to the environmental changes. Its main purpose is to identify the main threats, risk management and enhancing professionalism. Following the recommendations of the auditors is optional for the WUT's departments, but justification is expected for mismanagement and lack of procedures.

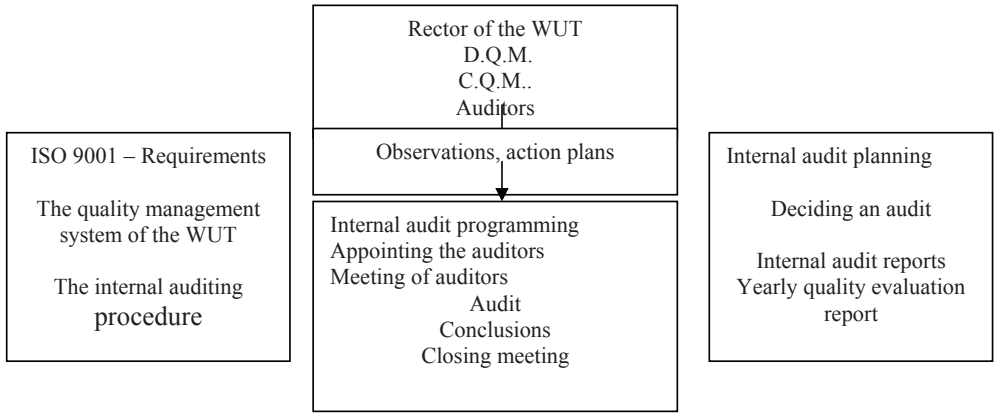
The audit takes place within the Department of Quality Management (DQM) and the Commissions of Quality Management (CQM) at each faculty. The auditors evaluate the effectiveness and performance of each policy, procedures and study programs. The outcome of the audit is further transmitted to the executive management of the university. The audit is meant to objectively evaluate and improve the management system within the WUT, support the completion of the WUT's strategy and action plan.

Table 2. The main characteristics of the internal audit

Nr. crt.	Reference	Internal audit
1.	**Status**	The internal audit is part of the management and control system
2.	**Beneficiaries**	The upper and middle management
3.	**Objectives**	Are set by the auditors and supervised by the Department for Quality Management (DQM)
4.	**Area**	All the entities that may be subject to auditing
5.	**Duration**	It is a planned and permanent activity, each entity being audited at least once every three years
6.	**Objective**	Conformity with the standards and procedures
7.	**Organisation**	Is organised within a specific department
8.	**Methodology**	Is standardised and common for all the auditing missions
9.	**The observations**	The recommendations are mentioned in the *Auditing Report*
10.	**Recommendations, conclusions**	Recommendations are optional to be applied but the best practice procedures require explanations for mismanagement and an action plan
11.	**Outcome**	SWOT analyses

The audit follows the Plan – Perform – Check - Act the procedure is described below:

Figure 3. The auditing process



Conclusion

In order to enhance the quality of the international study programs, the WUT constantly monitors and audits the study programs and the departments that offer these programs. These approaches allows an in – depth analyses based on SWOT analyses.

In the near future, a system of indicators measuring the learning and research outcomes should be put in place, since it is a relative concept that may have various interpretations.

Nevertheless, the authors found that by using these two procedures, considerable information can be gathered and used to improve the quality of the international study programs.

References

Berings D*., et al.*, „*Quality culture in higher education: from theory to practice, in Building bridges, Making sesnse of quality assurance, European, national and institutional context"*, *A selection of papers from the 5th quality assurance forum*, Lyon nov. 2010

Biggs, J. & Tang, C., „*Teaching for Quality Learning at University"* (Maidenhead, McGraw-Hill and Open University Press), 2007

Standards EN SR 9001:2008

Appendix. Summary report on the monitoring of smart nano-mycrosystems, physics of crystalline materials and artificial intelligence and distributed computing master programs

a. The general overview

Master program	Strengths	Weaknesses	Opportunities	Threats
Smart nanomicrosystems	It is an interdisciplinary field offered in English language. It is identified and considered as a new educational and research direction that fits successfully in the EU's and the highly industrialized states' educational and research programs. The "Smart nano-microsystems" master provides an innovative research oriented program. The master program benefits from the valuable input of a teaching staff with significant research results and numerous foreign trainings. As the teaching language is English, students are offered additional opportunities for international exchanges and to continue their studies with doctoral courses either in Romania or abroad. The curriculum is rooted in the research activities undertaken by the research group of the faculty. Students can fulfil their practical training within the laboratories of the research centre endowed with latest high-tech equipment. 20% of students receive scholarships from the university. All students can benefit of the university's dormitories. Deserving students can obtain internships abroad at partner research institutes and universities. Academic and career counselling is provided to each student. Thus all the teaching staff advises 2-3 students. Plans are correlated in a manner to assure that the proposed dissertation topics cover interdisciplinary areas too. These are consistent with the teachers' research domains and themes. Graduates' training provides them with technologic skills and abilities that in the forthcoming years will find practical applications in the real economy. Syllabuses have been thoroughly checked and for each subject a good harmony have been found between the theoretical courses and the applied part taught at seminars and labs. Generally, each discipline has printed (or electronic format) support and laboratory supervisor. It also uses a minimum of bibliographic references. The "Eugen Todoran" Library covers the need for courses and textbooks. For all the subjects there are bibliographic materials in English used as course materials. International collaborations with research institutes and universities in France and Russia. Developing communication skills in a foreign language. From educational point of view, students have access to a greater degree of innovation, studying adaptability and professional communication in a foreign language.	The internationalisation degree is low: there are no foreign teachers to instruct within the program; so far no foreign student completed the master program. It should be mentioned that the master program works for just one year. Even if given the language test at admission, some students have difficulties to communicate in the foreign language. Weak links with industry to carry out practical activities. Poor promoting research direction: there is no website dedicated exclusively to the program and no advertising materials.	Increase the internationalisation degree by inviting foreign teachers from among the staffs' relations. Realising internships abroad at research institutes and partner institutions. Integration within a European master program. Building in Timisoara, within the next years, two research institutes, in renewable energy and environmental science, generating new employment opportunities for the graduates.	Youths decreasing interest in exact sciences could reduce the recruitment pool among bachelor's degree holder graduates in Romania. Because of a foreign language knowledge criterion at admission, students may prefer to choose a specialization taught in Romanian. If the university's management will fail to develop institutional policies to support foreign students (places in dormitories, lower fees, visa assistance, counselling, etc.) the internationalisation of the master program on the student component will not be achieved. The lacking performance of the Romanian industry in the production of new technologies that could reduce students' interest for this direction, being necessary the growing interest for the European market where the industry is significantly more developed.

Physics of crystalline materials	Increasing knowledge in this area is critical, being in line with the current concerns of the global research for obtaining new materials with predetermined properties and qualities, by their optical and spectral characteristics. The "Physics of crystalline materials" master provides an innovative research oriented program in the domain of crystal growth and characterisation. The master program benefits from the valuable input of a teaching staff with significant research results and numerous foreign trainings. As the teaching language is English, students are offered additional opportunities for international exchanges and to continue their studies with doctoral courses either in Romania or abroad. The curriculum is rooted in the research activities undertaken by the research group of the Faculty of Physics. Students can fulfil their practical training within the laboratories of the research centre endowed with last generation equipment. 20% of students receive scholarships from the university. All students can benefit of the university's dormitories. Deserving students can obtain internships abroad at partner research institutes and universities. Academic and career counselling is provided to each student. Thus all the teaching staff advises 2-3 students. Plans are correlated in a manner to assure that the proposed dissertation topics cover interdisciplinary areas too. These are consistent with the teachers' research domains and themes. M.A. graduates' training provides them with technologic skills and abilities that in the forthcoming years will find practical applications in the real economy. Syllabuses have been thoroughly checked and for each subject a good harmony have been found between the theoretical courses and the applied part taught at seminars and labs. The master program provides applications in various areas, like: environmental protection, consumer protection, etc. Generally, each discipline has printed (or electronic format) support and laboratory supervisor. It also uses a minimum of bibliographic references. For all the subjects there are bibliographic materials in English used as course materials. The "Eugen Todoran" Library covers the need for courses and textbooks. Reported student/ teacher ratio (for each master): 9/1.5 = 6/1 Graduated average (for each master) - First year: 85% - Second year: 100% Jobs are found in the current national qualification classification framework, which obviously will undergo substantial changes and additions required by the quality of EU member state and especially by the free movement of the persons: physics teachers in secondary schools and colleges, researchers, physics engineer, physicist, engineer.	The internationalisation degree is low: there are no foreign teachers to instruct within the program; so far no foreign student completed the master program. It should be mentioned that the master program works for just one year. Even if given the language test at admission, some students have difficulties to communicate in the foreign language. Weak links with industry to carry out practical activities. In Timisoara and there is no peak interest in the production industry of crystalline materials. Poor promoting research direction: there is no website dedicated exclusively to the program and no advertising materials.	Increase the internationalisation degree by inviting foreign teachers from among the staffs' relations. Realising internships abroad at research institutes and partner institutions. Integration within a European master program of crystalline growth. Building in Timisoara, within the next years, two research institutes, in renewable energy and environmental science, generating new employment opportunities for the graduates.	Youths decreasing interest in exact sciences could reduce the recruitment pool among bachelor's degree holder graduates in Romania. Because of a foreign language knowledge criterion at admission, students may prefer to choose a specialization taught in Romanian. If the university's management will fail to develop institutional policies to support foreign students (places in dormitories, lower fees, visa assistance, counselling, etc.) the internationalisation of the master program on the student component will not be achieved. The lacking performance of the Romanian industry in the production of new materials that could reduce students' interest for this direction, being necessary the growing interest for the European market where the industry is significantly more developed.

Artificial Intelligence and Distributed Computing (AIDC)	The master program assures the continuity in English of B.A. graduates further studies, followed also in English. Prepare specialists having the necessary skills to work in multinational companies or to pursue their studies abroad. The possibility of d study equivalence/ recognition. Necessary skills training for IT firms by introducing specialised optional courses and internships. Opportunity to benefit from internships in research institutes abroad, having collaboration agreements with UVT (INRIA France, RISC Austria). Involvement in teaching activities of the returned researchers after fulfilling their doctoral studies abroad. Large proportion of graduate employability (85%).	The program is not yet internationally visible enough to attract foreign students (except those involved in the Erasmus-type mobility programs). The master program does not provide modules to ensure intercultural communication skills necessary in an internationalised environment. Reduced financial possibilities. There is no possibility of advanced linguistic education, organised institutionally, for the teaching personnel within the master program.	Possibility of the AIDC program to be integrated into master programs organised in cooperation with other European universities. To promote the master program by including the specialisation in the proposal developed within the EmaCs European project coordinated by the University of Coimbra, Portugal. The possibility to obtain double diploma. Graduate M.A. students' implication in research projects involving within the Department of Informatics and collaborating research institutes.	The risk of aging of the current teaching staff in the difficult conditions to attract young IT specialists in the academia. Exodus of young teachers to the private sector. Decreased interest of the BA graduates towards the research oriented masters.

b. Lingvistic evaluation

Master programs	Strengths	Weaknesses	Opportunities	Threats
Physics of crystalline materials	- the study program trains specialists in the field of condensed matter physics particularly in the field of crystalline materials, with English teaching . -the program benefits of the partnership between the Faculty of Physics and the University of Erlangen-Nuernberg, IISB Fraunhofer Institute, Erlangen, Germany - collaboration with the Grenoble Polytechnic Institute, the Institute for Solar Energy in France, the Berlin Institute of Crystal Growth, cooperation which is reflected in the multicultural contact and exchange experiences on common issues of research -developing students' skills to communicate in a foreign language, the students benefiting from courses taught in English which enables them further participation in a doctoral study program abroad - Students receive bibliographic material in English	- A third of students have a minimum knowledge of English, particularly regarding their level of communication -The limited availability of students to participate in internships abroad	-Most students are integrated into the labour market or have opted to continue their studies in a doctoral study program -International mobility for some of the teaching staff	- Communication with students, both in terms of the language of teaching and of a poor training regarding specialization
Smart Nano-Microsystems for Environmental and Nano-Microtechnologies	-There is bibliographic material used as course material in English for all subjects of teaching -International collaboration with research institutes and universities in France and Russia - skill development regarding communication in a foreign language -In terms of education, the student is offered access to a greater degree of innovation, adaptability to study and professional communication in a foreign language	-Students register difficulty to communicate in English, which can lead towards inhibition in case of introverted students and for those that have a poorer verbal fluency - Insufficient command of vocabulary in oral presentations	- most students are integrated in the labor market or continue their studies in doctoral study programs - the teaching staff benefits from Erasmus mobility - strengthening cooperation with research institutes active in nano - microtechnologies, regarding a better correlation of the study programs with the current research directions	- Minimum level of English language knowledge - especially at the level of general communication, for a third of the students, which reflects the reduced availability of students to participate / benefit from internships abroad - Attendance to classes is reduced

Artificial Intelligence and Distributed Computing	- the study program ensures continuity of studies with English teaching for graduates, who have also attended undergraduate studies with teaching in English - the students receive reference books in the field, available at the library of the Department of Computer Sciences, lecture notes and slides in English available in electronic format -the teaching staff receives assistance in developing lecture materials in English - books of didactic character published abroad were acquired - the program benefits from the cooperation between the Faculty of Mathematics and Informatics and foreign institutes (the Johannes Kepler University of Linz - Austria, the Paul Verlaine University of Metz, France, INRIA - France) - foreign collaborations are embodied in lectures and presentations by teachers as well as in research internships abroad attended by some of the students at the INRIA research teams. - in addition to professional skills, the students in master study programs develop skills in oral and written communication in English, in the professional field -In terms of education, the student has access to a greater degree of innovation, of adaptability to study and of professional communication in a foreign language	-The program is not yet sufficiently visible internationally in order to attract more foreign students (except those involved in the Erasmus-type programs) -Communication with students in English, in addition to classes -the number of books in English available at the university library is limited	-the program trains specialists providing them the necessary skills to work in multinational companies or to pursue further studies abroad. - the possibility that the program should be integrated among master study programs organized in cooperation with other universities in Europe - extending the collaboration with foreign universities - in addition to the permanent teaching staff, aimed is to attract young PhDs who have attended doctoral studies at a university abroad, followed by research internships or teaching activities conducted abroad. - the teaching staff has the opportunity of participating in international programs and of establishing contacts with teaching staff and researchers in universities abroad	There are no foreign students enrolled, except those involved in Erasmus programs