



ASIIN Certification Report

PhD Programme
Sciences in Natural Resources
Management

Provided by
Universidad Autónoma de Nuevo Leon (Mexico)

Version: 20 October 2017

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A About the Certification Process

Title of the PhD Programme	Previous certification
Sciences in Natural Resources Management	n/a
Date of the contract: 08.08.2016 Submission of the final version of the self-assessment report: 13.04.2017 Date of the onsite visit: 31 May and 1 June 2017 at: Campus Linares	
Peer panel: Prof. Dr. Carsten Mann, University for Sustainable Development Eberswalde; Emily García-Montiel, PhD student at Durango University; Dr. Timothy Synnott, Independent Forester in Mexico; Prof. Dr. Christiane Soerensen, HafenCity University of Hamburg	
Representative of the ASIIN headquarter: Dr. Siegfried Hermes	
Responsible decision-making committee: Certification committee	
Criteria used: European Standards and Guidelines as of 15.05.2015. European Qualifications Framework for Lifelong Learning as of 2008.	

In order to facilitate the legibility of this document, only masculine noun forms will be used hereinafter. Any gender-specific terms used in this document apply to both women and men.

B Characteristics of the PhD Programme

a) Name of the programme	b) Degree awarded upon conclusion	c) Corresponding level of the European Qualifications Framework	d) Mode of Study	e) Duration & Credit Points	f) First time of offer & Intake rhythm	g) Number of students per intake	h) Fees
Sciences in Natural Resources Management	Doctoral Degree / PhD	8	Full time	6 Semester 120 CP	February 1999 / each semester	9	5.250 MX Pesos per semester

For the PhD programme Sciences in Natural Resources Management, the website of the Faculty of Forest Sciences states the following **educational objectives**:

“The aim of the Doctorate in Sciences in Natural Resource Management (DScNRM) program is that students acquire a critical understanding of theories and principles about natural resources management sciences (Level 7-8 EQF). As a multi-disciplinary academic unit, the Program looks for the integration of several disciplines to enhance knowledge and propose solutions to a broad range of environmental issues. Faculty expertise includes forestry, wildlife biology, watershed management, environmental sciences, planning, and economics. This Program leads students to learn and value the environmental services provided by the ecosystems, to qualify human resources for scientific research integrating sensible management strategies of natural resources and due considerations of holistic assumptions, based on the principles of sustainability, balancing production/utilization and conservation of natural resources (Level 7 EQF).

Graduates are deeply involved in research activities, interacting with national and international scientific researches through short stays (up to six months) in recognized Universities or research institutions where they are expected to learn specific experimental techniques. They are also encouraged to present and disseminate research findings in international forums as well as through scientific publications (Level 7 EQF).

Professional developments for graduates of this program are diverse. They include all aspects of natural resource management, such as environmental consulting firms, governmental and non-governmental land management organizations, conservation and natural resource planning on private lands and with state and federal agencies, urban natural resource management agencies, nurseries and landscape management firms.

They can also be enrolled in Higher Education Institutions and Research Centers as lecturers and researchers.

The DScNRM program focuses on the need of sustainable management of the Earth's increasingly depleting natural biological resources. To address these pressing issues, professionals need to be able to work in interdisciplinary teams applying scientific knowledge and social sensitivity to come up with suitable holistic solutions.

The goal of the doctoral program is to develop the abilities of students, training them for independent work that contributes to original research at the forefront of their chosen fields.

For the PhD programme Sciences in Natural Resources Management, the website of the Faculty of Forest Sciences states the following **intended learning outcomes**:

"Students graduated from this Program should be able to (DSP-FCF Document, pp 7-9):

- Contribute to the natural resource sciences and society.
- Develop and implement suitable cutting-edge techniques with economic, ecological and social sensitivity towards a fair use and conservation of natural resources.
- Coordinate scientific research projects regarding a sustainable use of natural resources.
- Generate and disseminate research findings in international forums as well as through scientific publications.
- Demonstrate free thinking, independence in the generation of front-line knowledge through research, ability to work in team and a critical attitude towards improvements in the natural resources management that reflect in a better quality of life.
- Use of a foreign language (usually English) to express themselves in both, oral and written forms.
- Be competent leaders as well as to enforce their capacity for teamwork and decision-making."

With regard to the intended learning outcomes the Faculty website of the programme lists the following:

“Knowledge

- a. Is aware of contemporary (national and international) issues on natural resources management.
- b. Makes innovative scientific research considering ecological processes within ecosystems to ensure the welfare and quality of life of the population without compromising the ecosystem dynamics (CEDRN3).
- c. Knows how to balance economic and social interests in the management of natural resources with the generation of effective and efficient tools for assessing environmental services provided by natural ecosystems, with the aim of preparing national and international projects of financial and environmental compensation (CEDRN8).

Skills

- a. Looks for solutions to sort out problems that impact the environment and/or natural resources through the development of applied research (CEDRN4).
- b. Adapts schemes of production and transformation of natural resources to the local and global economy through the development of scientific research pursuing to increase profitability from the use of raw materials (CEDRN10).
- c. Participates constructively in society by promoting collaborative work and contributes in training new professionals and researchers with the transmission of knowledge and front-line scientific findings (CEDRN11).
- d. Generates technologies, tools and efficient models on natural resources management towards a sustainable use of them (CEDRN12).

Competences

- a. Develops innovative assessment techniques of natural resources through scientific research and front-line knowledge for achieving sustainable use of resources (CEDRN1).
- b. Assumes leadership with high ability to lead multidisciplinary research groups, committed to the needs of different sectors and promoting permanent improvement (CEDRN6).
- c. Develops techniques and methodologies for decision-making and public policies related to natural resources and their management, keeping a holistic and multicultural vision (CEDRN9).
- d. Develops new theoretical and practical models to predict potential changes in the status (demography, geographical distribution, market prices, etc.) of natural resources in

B Characteristics of the PhD Programme

order to propose in advance possible variations in management to maintain sustainability (CEDRN5).”

The following **curriculum** is presented:

Learning Unit/Module	Curricular Area	Hours per area	Number of credits per area
Elective module I	Formation	960	32
Elective module II			
Pre-doctoral examination	Publication of Results	840	28
Research paper			
Seminar I	Research	1800	60
Seminar II			
Seminar III			
Thesis			
	Total	3600	120

Table 2.4.2 Lecture hours (L), self-study hours (S), credits and requirements for the modules of DScNRM Program.

Learning Unit/Module	Code	Credits	L/S
Sustainable management of forest ecosystems	DRN-101	8	60/180
Sustainable silviculture	DRN-102	8	60/180
Forest ecosystem structure	DRN-103	8	60/180
Environmental economics	DRN-104	8	60/180
Advanced plant physiology	DRN-105	8	60/180
Analysis and management of	DRN-106	8	60/180

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natural hazards			
Planning and development of research in plant and wildlife	DRN-201	8	60/180
Plant geography	DRN-202	8	60/180
Selection criteria for wildlife management	DRN-203	8	60/180
Applied statistics in natural resources	DRN-301	8	60/180
Mathematical models in forest ecosystems	DRN-302	8	60/180
Models for decision making in natural resources management	DRN-303	8	60/180
Geographic information systems and use of multi-criteria analysis for decision making	DRN-304	8	60/180
Geomatics applied to evaluation and monitoring of natural resources	DRN-305	8	60/180
Selected themes on Conservation	DRN-401	8	60/180
Selected themes on Ecology	DRN-402	8	60/180
Eco-edaphological evaluations	DRN-403	8	60/180
Forest health selected themes	DRN-404	8	60/180
Management of natural protected areas	DRN-405	8	60/180
Structure and wood properties	DRN-501	8	60/180
Wood and its products	DRN-502	8	60/180

C Peer Report for the ASIIN Certificate

1. Formal Information

Criterion 1.1 Formal Information

Evidence:

- Relevant sec. 1 of the SAR
- Information on the website of the Faculty of Forest Sciences, accessible on the internet at: <http://www.fcf.uanl.mx/oferta-educativa/posgrado/dmrn/> (Access: 12.07.2017)
- Audit discussions

Preliminary assessment and analysis of the peers:

The relevant information concerning the length of the doctorate (six semesters), the credit volume (120 ECTS credit points), the awarded degree (Doctoral degree) and the fees per semester (\$ 4.520 MX Pesos for national students) seems plausible for the peers and has raised no further question.

The name of the programme is considered appropriate with regard to the defined study objectives, intended learning outcomes and contents as well. This is specifically true for the holistic view on the environment and the natural resources, which is strongly emphasized (“Develop techniques and methodologies for decision-making and public policies related to natural resources and their management, while maintaining a holistic and multicultural vision.”). The three-year full-time study relates to similarly structured PhD programmes in Europe and internationally. The prospected number of PhD-students (9) appears to be realistic and essentially corresponds to the numbers delivered on the website of the programme, though the figures differ ranging from 1 in 2004 up to 14 in 2010.

In this context, it needs to be stressed that the programme has been running at the university successfully since 1999.

Criterion 1.2 Legal relationship: mutual rights and duties

Evidence:

- General Regulations of Graduate Studies (“Reglamento General del Sistema de Posgrado” as of 12 June 2012; available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/10posgrado.pdf (Access: 12.07.2017)
- Audit discussions

Preliminary assessment and analysis of the peers:

Rights and duties of the applicants and postgraduate students are properly regulated within the “General Regulations of Graduate Studies” which, inter alia, entail admission rules, provisions for study progress and completion of studies, and for supervision and evaluation of the Doctoral Thesis. The peers welcome that comprehensive information about the legal status of the PhD students, their rights and duties, is available on the University and Faculty websites.

Final assessment of the peers after the comment of the Provider regarding criterion 1:

The peers consider the standards of criterion 1 as *completely fulfilled*.

2. Courses/Modules: Content, Policy and Implementation

Criterion 2.1 Learning outcomes of the PhD programme

Evidence:

- Relevant sec. 2.1 of the SAR
- Study objectives and learning outcomes available on the internet at: <http://www.fcf.uanl.mx/oferta-educativa/posgrado/dmrn/> (Spanish version); <http://www.fcf.uanl.mx/oferta-educativa/posgrado/dmrn-en/> (English version); (Access: 12.07.2017)
- Module matrices in the module handbook, Appendix C of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

The Faculty has stated educational programme objectives and intended learning outcomes for the PhD programme and also published them on the programme website. In the peers' view these learning outcomes reflect a qualification profile of graduates that centers around the protection, conservation and sustainable development of the environment and, for that purpose, a sustainable handling of the Natural Resources. A multitude of related topics is thus brought under an umbrella management perspective.

In order to assess the level of the programme, the peers match the stated learning outcomes at first against the generic level 8 descriptors of the European Qualification Framework for Third-Cycle-Degrees. It is obvious that the level 8 skills and competence requirements are properly addressed within the qualification objectives. This applies especially for the outspoken research- and scientifically-oriented competences, as for instance: "Makes innovative scientific research considering ecological processes within ecosystems to ensure the welfare and quality of life of the population without compromising the ecosystem dynamics" or "Adapts schemes of production and transformation of natural resources to the local and global economy through the development of scientific research pursuing to increase profitability from the use of raw materials" or "Develops innovative assessment techniques of natural resources through scientific research and front-line knowledge for achieving sustainable use of resources".

Besides, mainly four learning objectives of the PhD programme directly address and altogether summarize the management reference in the graduates' qualification profile: "Knows how to balance economic and social interests in the management of natural resources with the generation of effective and efficient tools for assessing environmental services provided by natural ecosystems, with the aim of preparing national and international projects of financial and environmental compensation", "Generates technologies, tools and efficient models on natural resources management towards a sustainable use of them", "Develops techniques and methodologies for decision-making and public policies related to natural resources and their management, keeping a holistic and multicultural vision" and lastly "Develops new theoretical and practical models to predict potential changes in the status (demography, geographical distribution, market prices, etc.) of natural resources in order to propose, in advanced, possible variations in management to maintain sustainability".

Taken together, these two sets of competences do properly clarify that the study programme primarily envisages in which way students should learn to treat the management of natural resources from a predominantly scientific point of view. This, in turn, is adequately reflected in the programme title "Sciences in Natural Resources Management". Consequently, the learning outcomes are also well suited to serve as a benchmark for the

assessment of the curriculum and study success, especially evidenced in the Thesis work (see below sec. 2.4 and 4).

Criterion 2.2 Prospects of the labour market and practical orientation

Evidence:

- Sec. 2 of the SAR, relevant chapter
- Discussions with students and alumni

Preliminary assessment and analysis of the peers:

The overall good job perspectives quoted in the SAR and the representatives of the Faculty during the onsite-visit appear to be plausible. As peers are told, graduates are employed by private industry, local, state and federal government and NGO's agencies related to natural resources management, and also by consulting firms, marketing firms, educational institutions such as Universities and schools as well as other organizations that are concerned with the natural resources management. According to the SAR, all of the already graduated 86 professionals in the programme are currently working in areas linked to sustainable management of natural resources. The statistics about the main fields of employment with 44% of the graduates working in teaching and research activities in universities, 14% in state and federal government positions¹, 6% as free-lance consultants or having their own consultant firm, and the rest working in NGOs or private companies illustrates that the graduates to a large degree are seeking a scientific and research career. This is clearly reflected in the programme educational objectives and has been confirmed by the students, alumni and representatives of the employers too.

The peers highly appreciate that the Faculty apparently has kept close contact to the doctoral graduates from the beginning, the more so, since a structured follow-up process for the Alumni (Alumni survey to be conducted on a biennial basis) has only recently been introduced (2016). In this respect, it is strongly supported that the Faculty has already decided on an extension of its quality assurance methods and instruments, thus ensuring a continual and qualified feedback about the programme objectives and achievements from both alumni and employers.

Despite the already promising job perspectives of the graduates of the PhD programme, peers are convinced that the employment opportunities in the international job market

¹ As for instance the Ministry of Environment and Natural Resources (SEMARNAT), the National Commission of Natural Protected Areas, Public and Private Parks, State and Municipality Agencies dealing with ecological projects, the Federal Attorney for Environmental Protection (PROFEPA), and the National Forestry Commission (CONAFOR).

should be improved. Science and research is – independent of the discipline – always an international undertaking, predominantly conducted in English; thus many interesting jobs in the field, in principal, are open to the graduates of this programme as well. But at the same time, the students have demonstrated a proficiency in English that appears to be improvable. This is considered unusual at least for PhD students, the more so, since students have to undertake the Exam of English Competences (EXCI) provided by the university during the admission procedure. Yet an insufficient command of English has been identified by the Faculty too in an internal evaluation conducted in 2015. The Committee in charge with the evaluation explicitly observes that the “lack of English proficiency limits the participation of students in stays in non--Spanish-speaking countries”. But even more than this “weakness” of the programme, the peers are astonished by a recommendation deemed adequate to solve this problem. “Encouraging students to do short stays in other national or international universities [...] where they do not require a high score in English language” (SAR, p. 54), from the peers’ point of view falls short of being a viable strategy, and will even worsen the situation. Therefore, it is considered necessary to strengthen the English proficiency of the students so that they are able to better cope with (international) job-market demands.

Criterion 2.3 Admission requirements

Evidence:

- Sec. 2 of the SAR, relevant chapter
- General Regulations of Graduate Studies (“Reglamento General del Sistema de Posgrado” as of 12 June 2012); available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/10posgrado.pdf (Access: 12.07.2017)
- Information about the admission requirements published on the Faculty’s website at: <http://www.fcf.uanl.mx/wp-content/uploads/2014/11/Requisitos-Doctorado-en-Manejo-de-Recursos-Naturales-.pdf> (Access: 12.07.2017)
- Audit discussions

Preliminary assessment and analysis of the peers:

Peers take note that applicants must have a Master in Sciences degree or an equivalent title of a recognized academic institution. The degree or title should be related to the PhD Programme and an average grade of 80 is required. Besides, students are evaluated by the Doctoral Academic Committee (DAC) in order to know their research interests and expectations. Apart from the already mentioned Exam of English Competences, students

have to pass the National Enrolment Exam (EXANI III) which includes a section on Agri-Biological Sciences, as the SAR points out. Peers see that students are offered detailed information about either examination on the websites of the university and the National Center for Educational Evaluations (CENEVAL), respectively.

The admission rules are clearly and transparently stated in the “General Regulations of Graduate Studies” of the university and Faculty. These rules, inter alia, specify the disciplinary fields in which the required second-cycle degree should be awarded (Agronomy, Biological Sciences, Forestry, Veterinary or related sciences). According to them, applicants must obtain a minimum of 900 points in the EXANI III test and 400 points in the Test of English as a Foreign Language (TOEFL). In the interview with the DAC he/she has to expose his/her thesis draft project as well as a written essay about a current scientific issue.

The peers generally came to the conclusion that the admission requirements contribute to the attainment of the educational objectives by favoring applicants who have proven their qualification and interest for the PhD programme in the admission procedure. This assessment is supposed to be confirmed by cohort-wise application, admission and graduation rates which have not been provided. Whether the 2016 CONACYT evaluation and the website of the CONACYT account - which the SAR refers to - contain meaningful data in this respect could not be verified for the purpose of this report. That is why the Faculty is requested to complementary provide relevant statistical data in this respect, if available.

The peers acknowledge that rules exist for the recognition of achievements acquired at other universities (cf. Artículo 80 – 85 of the “General Rules”). Compared with a similar regulation for undergraduate programmes of the university, these rules are largely oriented at the acquired competences and not solely or predominantly at the credit volume or content of courses / modules. The peers appreciate this, but also learnt from the SAR that the procedural implementation of these rules is in fact largely content- and credit size-oriented. Therefore, it appears to be recommendable putting more effort in a procedural implementation of the rules of recognition of academic achievements gained at other universities that is compliant with the binding provisions of the university.

Criterion 2.4 Contents

Evidence:

- Curriculum of the programme as depicted in the SAR
- Objectives-module-tables in the Module Handbook; see Appendix C of the report
- Module Handbook; see Appendix C of the SAR

- Audit discussions

Preliminary assessment and analysis of the peers:

The peers consider the concept of the PhD programme under review convincing. Its modules are reasonably devised and plausibly aiming at the “sustainable management of the Earth's depleting natural resources such as clean water, energy, minerals and biological resources, in relation to the growth of the human population”.

Thus, the core educational objectives stimulating respective research and management competences in the field of the protection, conservation and development of natural resource through management can be traced in subjects such as forest and biodiversity management, sustainable agriculture, soil conservation, ecosystem restoration, ecological processes, integrated watershed and water resource management, economics, forest inventory, climate change, management and conservation of temperate forests, wildlife biology management ecosystem services in sustainable agriculture, land-use planning, socioeconomics and analysis of natural resource, natural resources policy and livelihoods approaches for natural resource management. Regarding the topics covered by the modules, peers are explained that the students have the possibility to specialize and focus in one or more of four broad research areas: ecosystem science; ecosystem management; spatial sciences; ecological processes and plant systems. In either case, as the peers understand, the students' research work ultimately should be focused to management aspects of the natural resources, since after all this must be perceived as the conceptual idea of the programme. As will be seen later in this report, some of the doctoral theses inspected by the peers during the onsite-visit do not really relate to this principle, but appear to be specialized studies one would rather expect in disciplines like botany, biology or zoology (see below sec. 4). It conforms to this perception that graduates of the programme are seen by employers as well equipped with research competence and advanced subject-specific knowledge, but to a considerable lesser extent competent to single-handedly draft and, at times, even understand management plans in fields like environmental protection, harvesting, hunting or wildlife. Taking into account the defined educational objectives, it is comprehensible that practical management competences are explicitly not at the forefront of the qualification profile of graduates of this postgraduate study programme. Instead, the programme in the first place aims at knowledge and research about management solutions in the area of natural sciences which can be build on in different professional career paths.

Otherwise, the module descriptions clearly do not adequately grasp the meaning of each module with respect to the programme objectives and learning outcomes at large. Although learning objectives and contents of the modules are (in most cases very briefly)

addressed and module learning objectives are schematically attributed to the programme learning outcomes, neither the contents nor the learning outcomes of the modules do adequately reflect the concept of the programme as laid down in its study objectives and learning outcomes. It is therefore considered necessary that the module descriptions are revised and essentially rewritten in this respect. Furthermore, there are still some module descriptions found to be missing (Seminars, Research paper, Pre-Doctoral Examination, Thesis). They should be supplemented during the course of the accreditation procedure. Generally it is considered necessary that the module descriptions are made accessible to all relevant stakeholders (students, teachers, applicants, etc.).

Final assessment of the peers after the comment of the Provider regarding criterion 2:

Taking into account the comments of the HEI and some additional information (student statistics), the peers conclude that the standards of criterion 2 are *partially fulfilled, but not yet completely*.

English proficiency

As has been discussed above, the peers found that students on average appear to have an only limited proficiency in English. As it seems the faculty came to a comparable conclusion in a recent survey. The peers do not doubt that the faculty intends to take all efforts to increase the academic mobility of students in general (in the Spanish as well as the English speaking world) without outright neglecting their English language skills. With a view to the relevance of such skills in the job market and for making effective use of the mobility opportunities of the university as well, the audit team therefore considers further steps towards improvement in this field indispensable (see below, chap. F, A 2.).

Admission requirements / Student statistics

The peers appreciate the statistical data the faculty submitted along with its statement. As expected the drop-out rate of students admitted to this postgraduate programme is rather low, close to zero, though with a slight increase in absolute numbers in recent years. Most of students who have undergone the admission procedure eventually complete their PhD studies successfully. Thus far the admission rules as well as the selection procedure seem to work in terms of identifying applicants with necessary qualifications. A significant number of students graduating within or only slightly above the standard period of study (three years) might also favour this interpretation. Otherwise, the rate of students concluding the PhD programme without graduation is apparently increasing in some, though not all of the most recent cohorts, which might indicate certain problems. However, drawing any conclusions from the bare figures without further analysis and explanation of the HEI would be premature. Given that, the peers recommend instead to

systematically document and analyse cohort-wise statistical data about the study success thus making proper use of the data in the process of further developing the PhD programme. They propose supplementing a recommendation concerning the quality assurance system in this respect (see below, chap. F, E 4.).

Module descriptions

Taking into account the explanation given in the parallel accreditation procedure for the Bachelor's programme Natural Resources Management Engineer, the expert team understands that the university / faculty actually provide basically two sorts of module descriptions. There is on the one hand the so-called synthetic programme and the Course Implementation Plan ("Programa Analítico") on the other, the former being essentially a summary of the latter. The more detailed Course Implementation Plan ("Programa Analítico") apparently contains some of the information the peers found to be lacking or at least rather scarce in the module handbook handed to them. However, the extended version has not been submitted and is available in Spanish only. Thus, peers are unable to decide whether and to what extent the course / module information, the students do actually have access to, already meet the needs they observed in their preliminary assessment. This particularly refers to the learning objectives and contents of the modules, but also to other relevant aspects, such as workload distribution, forms of assessment, and module coordinators (see below, sec. 3.2 and 3.3 of this report). It is therefore considered indispensable that the shortcomings of the Module Handbook (in the version known to the audit team) should be removed, thereby referring either to the short-cut version or to the Course Implementation Plan as the basis for the revision. In the end there should be at least one set of module descriptions entailing all relevant information about the modules. In order to enable the peers to thoroughly assess the module descriptions the latter must be provided in English (see below, chap. F, A 1.).

Rules of recognition

For reasons detailed in the preliminary assessment, it is deemed recommendable that the procedural practice of recognizing competences and qualifications achieved at other universities should be more in sync with the relevant provisions. In particular, more stress should be laid on acquired competences instead of credit volume or content of modules / courses (see below, chap. F, E 1.).

3. Courses/Modules: Structures, Methods and Implementation

Criterion 3.1 Structure

Evidence:

- Relevant sec. 3 of the SAR, relevant chapter
- Module-objectives tables in the module handbook; see Appendix C to the SAR
- Study plan of the programme according to the SAR; information about the actual study plan and (five) areas of specialization available on the Faculty's website at: <http://www.fcf.uanl.mx/wp-content/uploads/2014/11/Requisitos-Doctorado-en-Manejo-de-Recursos-Naturales-.pdf> (Access: 12.07.2017)
- General Rules of International Relations; available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/RelacionesInternacionales.pdf (Access: 12.07.2017)
- Results of internal/external evaluations, see Appendix G of the SAR
- Cooperation Agreements, see Appendix H of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

The peers consider the curriculum as being adequately set up. The structure of the programme, being a combination of altogether four elective learning units (8 credit points each) and three seminars (12 credit points each) distributed over five semesters, a Pre-Doctoral Examination (19 credit points), a Publication (18 credit points) and the (Doctoral) Thesis (24 credit points) spanning from the fourth to the six semester, is deemed adequate. In particular, the structure allows PhD students to specialize and broaden their knowledge in one or more subject fields of their choice, and by the same time leaves enough room for them to gradually deepen their newly acquired knowledge in a research project and seminars. The peers appreciate the research focus of the PhD programme, reflected in the idea to have a major research project worked on through the whole study period. Commencing in the first semester (research proposal) and its progression supervised through three successive seminars, its results shall be consolidated in the final draft of the doctoral thesis. Switching between elective modules offered in blocks and seminars up to the fourth semester is regarded as an adequate didactical device to serve the defined educational objectives, in particular to develop the intended research capabilities of the students. The elective modules covering the different specialisation areas appear to

be deliberately chosen and are, in principle, framed coherently and consistently as self-contained teaching / learning units. It should however be noted that the four research areas named the SAR are not identical with the five knowledge areas referred to in the programme information on the Faculty's website. It would only be consequential that the thematically ordered elective catalogues in the website-information of the PhD programme are consonant with the areas of specialisation mentioned in the SAR (ecosystem science; ecosystem management; spatial sciences; ecological processes and plant systems). And since the list of elective modules is essentially the same in both information sources, it may make sense considering whether the areas of specialization depicted in the SAR are also fitting as structuring principle for the composition of the relevant elective module sets.

Concerning the research competences to be gained in the course of the programme, the peers appreciate that students are required to publish a research paper and pass a Pre-Doctoral Examination before giving their thesis work a final draft (fourth and fifth semester). With the Pre-Doctoral Examination and the submission of a research paper as major proof of the competence to independently do research work, the peers consider these modules as important intermediate steps to evidence the achievement of the programme learning objectives in general.

Proficiency in English is seen as a core competence, if students and graduates are to participate in the international scientific discourse in their specialized field of knowledge. It is consistent with this assumption that appropriate language skills are on the one hand included in the qualification profile of the graduates ("Use of a foreign language (usually English) to express themselves in both, oral and written forms") and on the other at a defined level are part of the admission requirements of the programme. It has been already noted (see sec. 2.2 of this report) and experienced during the onsite-visit that the students' command of English appears to be amendable. In fact, student mobility at least in English-speaking countries seems to be rare, as has been observed, too, in the most recent CONACYT² evaluation 2016. With regard to the educational objectives and potential job market perspectives in the international arena, taking appropriate measures to strengthen the English language skills of the students is considered an urgent issue. In this respect, the peers again stress that "encouraging students to do short stays in other national or international universities [...] where they do not require a high score in English language" is not viewed as helpful, but on the contrary. The fact that apparently most of the cooperation agreements of the Faculty, which primarily serve as a basis for student/teacher mobility, are concluded with universities in Spanish speaking countries may

² CONACYT – Consejo Nacional de Ciencia y Tecnología

be indicative of this observation, and a diversification in this respect might be considered as well.

Criterion 3.2 Workload

Evidence:

- Sec. 3 of the SAR, relevant chapter
- Module Handbook, see Appendix C of the SAR
- Study plan of the degree programme according to the SAR
- Regulations concerning the credit point system (Art. 47pp. of the “General Rules of Graduate Studies (“Reglamento General del Sistema de Posgrado” as of 12 June 2012); available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/10posgrado.pdf (Access: 12.07.2017)
- Audit discussions

Preliminary assessment and analysis of the peers:

The UANL has devised a credit point system that is almost similar to the main features of the ECTS system. That is say, that the estimated amount of work students are to bear for the completion of a module does include both attendance-based learning and self-study time. One credit point is awarded for 30 hours of student workload. On the basis of 20 weeks of attendance time per semester (Art. 49 of the “General Rules”), the number of credit points awarded for each module thus leads to the ratio of attendance time versus self-study time. The overall workload of students per semester nominally ranges from eight (second semester) to 30 credit points (fifth semester), but may alter according to the individual study plan agreed upon by the student and his major adviser who is nominated in advance by the Doctoral Academic Committee. This workload distribution is generally considered to be adequate.

All subject-specific (elective) modules are awarded eight credit points which appears to be reasonable taking into account the contents of the modules. Confirming this assessment, students overall confirmed the credit point attribution and the workload distribution as reasonable. Nevertheless, the homogeneity of the module size (8 credit points modules) puts additional weight to the question of how the Faculty assures that the workload of the individual elective module in fact reasonably corresponds to the awarded credit points. It is notable in this respect that the “General rules for graduate studies” encompass a provision requiring an evaluation of the credit point allocation every sixth

year from the date of the accreditation of the programme on (Art. 52). In terms of quality assurance, this might be conceived as a quite long time period undermining the chance to quickly react in case significant mismatches between the awarded credit points and the actual workload of students should occur. As to that, the programme coordinators indicated that a regular process of monitoring the student workload and allocation of credit points has been established already and is observed punctually. The peers could not identify any evidence for this (for instance, a course evaluation questionnaire containing concrete questions in terms of workload evaluation). The peers would therefore be grateful for an explanation on how and when the reported workload evaluation takes place on a routine basis.

It is also noticeable in this connection that the module descriptions at present do not contain full information about the students' workload. This can only be derived from the combined attendance time (which is indicated in the description sheets) and credits award on the additional assumption that the semester consists of altogether 20 weeks. Consequently, the module descriptions should clearly indicate the total workload of each module and, too, how it is composed of.

Criterion 3.3 Teaching methodology

Evidence:

- Sec. 3 of the SAR, relevant chapter
- Module Handbook, see Appendix C of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

As the peers learnt from the SAR, the most familiar educational methods used in the PhD programme are laboratory exercises, discussions of contemporary issues, seminars, case studies, field trips, research projects, participation in regional, national or international conferences as well as participation in national and international research internships or exchange programmes. The peers are told that the application, extent and weight of the teaching methods are up to the individual professor and decided on with particular attention to the intended learning outcomes of the respective module.

As mentioned previously in this report (see above sec. 3.1), the combination of lectures and seminars, complemented by the challenging requirement to prepare a research paper and along with that successfully pass a Pre-Doctoral Examination, is seen as highly conducive to achieving the research-oriented learning objectives of this programme, in particular. It can also be stated that the workload calculation as expressed in the ratio

between the attendance / lecture time and the self-study time clearly reflects the Faculty's claim to train scientists and researchers in the field for Natural Resources Management. Taken together, it can be concluded that the teaching methods and instruments generally support the students in achieving the learning outcomes. On request the students confirmed this judgement.

This result notwithstanding, the module descriptions barely give an adequate picture of the teaching and learning methods the university applies in the PhD programme. Since structured doctoral programmes like the one under review are qualitatively different from first and second cycle study programmes in that refer to already academically trained personnel, it is regarded worthwhile to know how these special group is approached didactically. To point out, as brief as possible, this approach in the module descriptions remains to be done yet.

Criterion 3.4 Support and assistance

Evidence:

- Sec. 3 of the SAR, relevant chapter
- Audit discussions

Preliminary assessment and analysis of the peers:

In the first place, it is positively noted that each doctoral student is assigned a scientist or professor of the Faculty of Forest Sciences as major advisor. PhD students need special advice, supervision and counseling which demand is best served by an individually assigned adviser whom the students can approach in all study-related questions.

Furthermore, the peers learnt that doctoral students are guided about the organization and functioning of the Faculty, facilities distribution and their proper use by offering an introductory course at the beginning of the first semester.

With regard to student mobility, it is generally acknowledged that students have the opportunity to exchange a national scholarship (awarded by CONACYT) in an international one for a period of up to six months. This could encourage the mobility of students which is of particular importance for a PhD programme and its participants.

In principal, the peers receive the impression that the services of the university and the Faculty in terms of counseling, supervision and advice are adequate. The PhD students generally confirmed this view in the audit discussion.

Final assessment of the peers after the comment of the Provider regarding criterion 3:

Taking into account the comments of the HEI and some additional information (documents concerning the monitoring of the student workload), the peers conclude that the standards of criterion 3 are *still partly not fulfilled satisfactorily*.

Module descriptions

Deficits of the module descriptions and the conclusions which have been drawn from that (see below, chap. F, A 1.) have already been discussed in detail in the final assessment of criterion 2.

Student Workload

The HEI has provided several documents supposedly representing the actual process of monitoring the students' workload. The expert team concludes that the combined documents in the first instance contribute to formally checking whether the student's study plan fits into the pre-set workload scheme for the semester. This is not a check of the actual student workload for a specific module and thus does not convey any meaningful information about whether the workload corresponds to the credit point allocation or not. However, it is appreciable that for this purpose the faculty plans to introduce a questionnaire containing, inter alia, a question about the student's perception of their actual workload. The peers explicitly support this approach by recommending an additional requirement urging the HEI to put in place a suitable process for monitoring the students' workload and, if necessary, adapting the credit point allocation (see below, chap. F, A 3.).

Language skills / English proficiency

Deficits regarding the English language skills of students have already been discussed under criterion 2. The peers plead for a requirement to this end (see below, chap. F, A 2.).

4. Examination: System, Policy and Forms

Criterion 4 Exams: System, policy and forms

Evidence:

- Sec. 4 of the SAR
- Module Handbook
- General assessment regulations ("Reglamento General de Evaluaciones" as of 8 September 2011); available on the internet at:

http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/07evaluaciones.pdf (Access: 12.07.2017)

- Audit discussions

Preliminary assessment and analysis of the peers:

The Faculty's concept has opted for a concept of multi-component assessments to measure the achievement of course outcomes and thus the programme's educational objectives in the PhD programme, too. The possible forms of evaluation are defined in the "General Assessment Regulations". However, the module descriptions only contain an indication of the different components of and their individual weight for the overall assessment rather than the exact assessment forms in the different teaching units (e.g. "Practical Training (30%), Seminars (30%), and Examination (40%)"). More precise information about the respective evaluation forms for each module is considered important for the students and should therefore be added to the module descriptions.

Apart from that, the peers judge this examination approach as an appropriate instrument to ensure that the academic performance of the students is assessed in different ways and in a comprehensive manner. They welcome the comprehensive assessment method as it at the same time aims at assessing different levels of competences. In this context, they also convince themselves that subject-related communication skills are monitored in a chain of modules, where students have to give oral presentations. All in all, it has been conclusively demonstrated that the examinations are structured in a way to cover the intended learning outcomes and provide PhD students continuous feedback on their progress in developing competences.

According to the SAR, the students usually have to pass one final evaluation (oral or written), while their ability to design and carry out independent research work is evaluated in three seminars. Peers acknowledge that these seminars are part of the core research project starting in the first semester wherein students are supposed to demonstrate their abilities to explain complex issues in front of a public audience and an evaluation committee. In this connexion, it is received as particularly convincing that the seminars are, inter alia, designed to serve as a forum to monitor the progress of the individual study projects which ultimately culminate in the doctoral theses. The peers have gained the impression that the PhD students were principally satisfied with the examination load and its distribution over the semesters.

The principal rule of one extra opportunity for an already failed attempt of an examination seems reasonable to the peers, taking into account the doctoral level of the degree programme. As regards further aspects of the organisation of the examinations (like for

instance examination period, preparation time, application and deregistration, remediation period etc.), the peers found all issues appropriately addressed in the exam regulations.

The sample of examinations that the peers have inspected during the onsite-visit have been found appropriate with respect to the level of difficulty and the results in the view of the peers reflected the achievement of the intended learning outcomes of the respective modules.

When it comes to the Doctoral Theses the peers have had a closer look at, they noticed that a considerable number of these works are dealing with research questions which they rather would have been expecting in specialised disciplines, as for instance Botany or Zoology or Biology. To a certain degree, this approach can be judged as a misallocation of research capacity, and it is not properly aligned to the core field of study anyway. The peers are convinced that thesis topics must generally relate to the interdisciplinary and management objectives of the degree programme, elaborating a natural resource use and provisioning problem in analytical depths, resulting in some kind of management recommendations. This would be in accordance not only with the programme title “Sciences of Natural Resources Management”; it would also reflect the conceptual idea of the programme underlying each individual study plan as well as the defining areas of specialisation mentioned earlier (see above sec. 3.1). That is exactly why the description of learning outcomes and contents, in particular, should further clarify each module’s contribution to the overall theme of the PhD programme (see above sec. 2.4). And this is about how the different specialisation tracks within the programme are interrelated in the understanding of the peers.

Final assessment of the peers after the comment of the Provider regarding criterion 4:

The peers consider the standards of criterion 4 as *partly, but not fully met*. Doubts remain concerning the topics of the Doctoral theses inspected during the audit visit.

Doctoral thesis

As has been pointed out above, the expert team has got the impression that a considerable share of Doctoral theses are dealing with subjects normally falling into the reign of Botany, Zoology or Biology, thus lacking an immediate connection with the interdisciplinary and management fields at the center of the programme. Peers come to the conclusion that there should be an evident reference of the Doctoral thesis topic to the core theme of the study programme reliably. To ensure this, a respective requirement has been proposed originally and is confirmed by the audit team (see below, chap. F, A 4.).

5. Resources

Criterion 5.1 Staff

Evidence:

- Sec. 5 of the SAR
- Proof of Sufficient Teaching Capacity, Appendix A of the SAR
- Staff CVs, Appendix B of the SAR
- “Reglamento del Personal Académico” as of 16 Diciembre 1996; available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/14personalacademico.pdf (Access: 12.07.2017)
- Audit discussions

Audit discussions Preliminary assessment and analysis of the peers:

Staff resources

Taking into account the available information (Staff CVs and Appendix A, see above), the peers conclude that the teaching personnel are well-qualified to assume its teaching responsibility in the PhD programme. In this respect, it is particularly noted that the staff members participating in the programme have the formal qualification needed (PhD degree at a minimum) and adequately represent the expertise of the diversity of disciplines integrated into this highly interdisciplinary PhD programme.

Whether the staff resources are quantitatively sufficient can hardly be judged from the available information (Appendix A, see above). In particular, the Appendix A2 only gives an account of the percentage share of activities of each staff member, leaving out to clearly state how much hours for teaching, administration and supervision tasks have to be granted overall for the programme and also how these numbers relate to the regular teaching load of the staff members. Additionally, it is quite unclear whether the table relates to the PhD programme alone, since identical numbers have been provided for the entire workload attributed to two programmes (the Bachelor’s programme Natural Resources Management Engineer *and* the PhD programme). A more conclusive argument would have been all the more desirable, since the peers gained the impression that the teaching load of the lecturers, including administrative and supervising activities, is felt to be rather high. Confirming this, an internal evaluation of the programme in 2015 highlighted as a weakness of the programme that “The large number of institutional commitments of professors of the DScNRM Program sometimes limits its dedication to the

DScNRM". In connection with that, it seems to also somewhat hamper activities of the staff members particularly relating to their professional and didactical development (as to that see the following chapter). After all, the Faculty is requested to present a reliable account of the workload of the teaching staff, including the teaching, administrative and supervisory assignments of each member of the teaching staff of the programme. Additionally, some remarks of the programme coordinators on how they have embraced this criticism in the follow-up of the programme would be appreciated.

Apart from this, the university's and Faculty's incentives to encourage the teaching staff to participate in significant research work (sabbatical leave, university research grant, research stays, participation in workshops, conferences and symposia) is highly appreciated. Such incentives, related programmes and opportunities in all events contribute considerably to the Faculty's expertise and research capabilities and, although more indirectly, to the integration of the students in research activities as well. Plenty of already existing cooperation agreements could also benefit this perspective. But all of this will be undermined by overburdening the staff with teaching assignments (see previous chapter).

Staff Development

The Human Resource Department of the university keeps a register of all staff members and therefore has an overview of the further training in the field of teaching and learning that has been conducted. The University organizes workshops aiming at strengthening the teaching competencies and practice of the teaching staff. Staff members regularly receive information about further training opportunities that are going to take place at the university in the near future. Reportedly, they can apply for it and have to receive permission from their superiors to participate in it. Thus, it can fairly be stated that sufficient opportunities to further develop the professional and teaching skills of the staff are available.

However, as has been noticed in the previous chapter, the staff members appear to be impaired to a certain degree in making use of these opportunities, due to onerous teaching, administration and supervision/counselling obligations. Depending on the actual workload of staff members (see previous paragraph), it might be advisable to effectively take pressure from the teaching staff and, hence, leave it more room to broaden their didactical and/or subject-specific abilities.

Criterion 5.2 Institutional setting, funding and equipment

Evidence:

- Sec. 5 of the SAR
- Cooperation Agreements, Appendix H of the SAR

- Audit discussions

Preliminary assessment and analysis of the peers:

As the SAR shows, the main financial source for the Faculty of Forestry Sciences is the state general fund allocated to the university and then transferred to each Faculty or department. The budget is provided on a yearly basis. The general funds are – according to the SAR – considered to support the programme’s basic operating needs: faculty and staff salaries, supplies and physical services, and to some extent, equipment and specific requisitions. The peers especially noted that the Faculty also receives a significant amount of financial support from major external sources: funds from specific partnership agreements with private and state organizations such as Mexican Petroleum (PEMEX), national and international research grants from state and private institutions and in some instances, from donations. Summing up all this, the peers consider the financial basis of the degree programme appropriate and secured for the accreditation period.

Concerning the Faculty’s infrastructure, facilities and laboratory equipment, the peers praise the high quality facilities. It is noticed in this context that the acquisition of major equipment and instruments to support the educational objectives is principally regulated and closely monitored by the university. National research grants may also function as a financial source for the acquisition, maintenance and upgrading of major equipment. The laboratories in use for the PhD programme, which the peers encountered during the on-site-visit, are generally found to be adequate to serve their major research goal. In this connection, the peers also welcomed that the PhD students do have sufficient access to research literature, particularly subject-related electronic books and periodicals.

Concerning the multidisciplinary approach of the PhD programme and the necessity to develop an awareness of the coherence of heterogeneous disciplines, theories and methods, it would be especially helpful to intensify the cooperation between the faculties which are already involved in the offer of the programme.

Final assessment of the peers after the comment of the Provider regarding criterion 5:

Taking into account the statement of the HEI as well as additional documents concerning the workload of the teaching staff, the peers consider the standards of criterion 5 as *generally met*.

Workload of teaching staff

The additional information concerning the workload of the teaching staff clearly confirms the impression of a comparatively high workload of the staff members on average, spanning up to roughly 50 hours a week. The numbers obviously include teaching, administrative, research and attendance hours. As has been stated in its preliminary assessment, the

audit team suspects that these duties could amount to impede other activities, in particular the opportunity to participate in didactical training courses offered at the faculty / university, and at times also to engage in research activities. Regarding this, the peers support framing a recommendation (see below, chap. F, E 2.).

Cooperation between faculties

For reasons, detailed above, the audit team also corroborates a recommendation to improve the cooperation of faculties representing the multitude of disciplines involved in the programme (see below, chap. F, E 3).

6. Quality Management: Development and Enhancement

Criterion 6.1 Quality assurance & enhancement

Evidence:

- Sec. 6 of the SAR
- Results of Internal/External Evaluations, see Appendix F of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

The peers note that the Faculty has put in place a process for defining, evaluating and assessing the educational objectives and student's outcomes of the National Resources Management Engineer-Programme. At the same time, responsibilities for the proper conduct of these processes are clearly assigned and with the “Program Assessment Board” an organisational unit has been set up resuming supervisory responsibility.

In terms of quality assurance, it is obvious that the Faculty mainly relies upon a multitude of survey instruments (Student Exit Survey, Alumni Survey and Employer Survey). These instruments, yet to be followed on a regular basis, are essentially aimed at information about whether the programme educational objectives actually fit the academic and professional needs of the graduates, alumni and employers. Additionally, they are designed and expected to deliver findings about the degree to which the defined educational objectives and intended learning outcomes actually have been realized from the perspective of relevant stakeholders (alumni and employers in this case). Evidently, the significance of these quality assurance tools with respect to their capacity in detecting weaknesses or major shortcomings of the programme is highly dependent on the respective response rate.

Additionally, the SAR points to the CONACYT evaluations that the PhD programme has undergone since its establishment in 2001 every five years. The peers acknowledge that the results of these evaluations have been deliberately fed into the process of continuous refinement of the programme, thus spurring a host of improvements (e.g. inclusion of a pre-doctoral examination, increase of graduation rate, reduction of average graduation time, increase of teacher mobility, follow-up programme for graduates). In this context, it is also considered worthwhile that the Faculty has conducted an internal evaluation of the PhD programme in 2015 and apparently worked on its critical findings ever since.

All in all, the peers come to the conclusion that the Faculty has convincingly demonstrated its awareness of the quality assurance dimension of the degree programmes. It also has demonstrated, at least to a certain extent, how the collected data and information have been made use of in the constant refinement of the programme under review. Nevertheless, the peers consider the quality assurance system to be improvable in terms of the full implementation of the diverse feedback instruments as well as the use of its findings (see following chapter).

Criterion 6.2 Instruments, data and methods

Evidence:

- Sec. 6 of the SAR
- Statistics and Data from Quality Management, see Appendix G of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

As to the evaluation instruments already in place and used, it is noted that course evaluations (“teacher evaluation”) are conducted on a regular basis and the results also systematically taken into account in the continued programme monitoring. However, feedback to the students in the follow up-process of these evaluations seem to be rather accidental and largely at the disposal of the professor/lecturer. Apart from that, the involvement and active participation of the students in the (further) development of the study programme appears to be generally low. Other stakeholders like alumni and employers also report that there is no structured feedback on how survey results or informally given suggestions and recommendations to the programme objectives, intended learning outcomes or contents of the programme are feed in the programme development. Thus, the development of a coherent feedback culture, including the effective closing of feedback cycles and sustainable follow-up processes, should be envisaged as next steps in the development of the quality assurance system.

Regarding statistical data on student generations and study success, the SAR generally referred to the data base provided in the CONACYT account and on the Survey Monkey web site. Especially with regard to the graduation and drop-out rates as well as information about the average duration of study, these data would have been of interest for the peers, but have not been readily available. Statistical data surveying the study progress in the indicated fields of assessment should be submitted along with the Faculty's statement to the report, if available.

In sum, the peers conclude that major steps in the further development of the quality assurance of the PhD programme could be made in particular with a view to feedback and follow-up processes as well as student and stakeholder involvement (see above). Moreover, it is seen principally advisable to gather meaningful cohort-wise statistical data concerning the graduation rate, the drop-out rate, the examination failure rate and the duration of study. The latter would be desirable, if decisions with the purpose of refining the curricular and / or organizational structure of the programme are to be drawn on a quantitatively reliable basis.

Final assessment of the peers after the comment of the Provider regarding criterion 6:

The peers consider the standards for the quality assurance system as *generally met*.

However, as has been discussed in sec. 3.2, it is seen as helpful with regard to monitoring the study success to improve the documentation and use of a reliable statistical data base. For the reasons cited above it appears also recommendable to enhance feedback and follow-up processes of already existing quality assurance methods. The peers consider this issue properly addressed in a respective recommendation (see below, chap. F, E 4.).

7. Documentation & Transparency

Criterion 7.1 Relevant documents

Evidence:

- Organisational Rules, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/01LeyOrganica.pdf (Access: 12.07.2017)
- General Regulations, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/03EstatutoGeneral.pdf (Access: 12.07.2017)

- General Regulations on admission procedures and student standing, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/06admission.pdf (Access: 12.07.2017)
- General Regulations on Evaluations, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/07evaluaciones.pdf (Access: 12.07.2017)
- Social Service, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/08serviciosocial.pdf (Access: 12.07.2017)
- Graduation requirements, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/09titulacion.pdf (Access: 12.07.2017)
- General regulations on discipline and good behavior within University Installations, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/11disciplina.pdf (Access: 12.07.2017)
- Regulations to recognize the Academic outstanding merit (Chapter V), available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/13meritoacademico.pdf (Access: 12.07.2017)
- Academic staff regulations, available on the internet at:
http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/14personalacademico.pdf (Access: 12.07.2017)

Preliminary assessment and analysis of the peers:

The auditors could see that all necessary rights and duties of both UANL and PhD students were clearly defined and binding (see also above sec. 1.2). All rules and regulations are published on the university website and hence available to all relevant stakeholders.

Criterion 7.2 Certificate upon conclusion / Diploma Supplement

Evidence:

- Leaving Certificate for the PhD programme, see Appendix E of the SAR
- Transcript of Records, see Appendix E of the SAR

Preliminary assessment and analysis of the peers:

The peers took note of samples of the Leaving Certificate and the Transcript of Records. At first glance, these documents only provide information about the individual achievements and performance of the student. Upon request, the Faculty indicates that no Diploma Supplement has been issued so far entailing detailed information about the educational objectives, intended learning outcomes, the structure and academic level of the degree programme as well as about the relevant national higher education system. In order to enable external stakeholders to classify the achievements and performance of the graduates and make them comparable to the performance of other graduates, the peers strongly suggest introducing a Diploma Supplement or equivalent document. Insofar they welcomed that university and the Faculty of Forest Sciences are actually considering the issuance of a Diploma Supplement.

Final assessment of the peers after the comment of the Provider regarding criterion 7:

The peers consider the standards concerning “Documentation and Transparency” as *largely, but not yet fully met*. Deficits remain with the Diploma Supplement.

Diploma Supplement

Referring to the reasons stated in the preliminary assessment, the expert team endorses a requirement that requests the faculty to issue a Diploma Supplement with relevant information about the degree programme as well as the individual study success (see below, chap. F, A 5.).

D Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the provider on the previous chapters of this report:

- D 1. Information about how and when the students' workload is monitored on a regular basis
- D 2. Reliable account of the workload of the teaching staff, including the teaching, administrative and supervisory assignments of each member of the teaching staff
- D 3. Statistical data about the application, admission, graduation and drop-out rates as well as about the average duration of study in the previous study years, if available

E Comment of the Provider (28.08.2017)

The institution provided a brief statement as well as additional documents on the following issues:

- Documents concerning the monitoring of student workload
- Overview of the workload of the teaching staff
- Statistical Data about the application, admission, graduation and drop-out rates as well as about the average duration of study in the previous study years

F Summary: Peer recommendations (12.09.2017)

Taking into account the additional information and the comments given by HEI, the peers summarize their analysis and **final assessment** for the award of the ASIIN certificate as follows:

Name of the Programme	ASIIN Certificate	Max. duration of certification	Alignment to a Qualification Framework Level
Sciences in Natural Resources Management	With requirements for one year	30.09.2023	8

Requirements

- A 1. (ASIIN 2.1, 2.4, 3.2, 3.3) Rewrite the module descriptions so as to include more detailed information about the content, qualification objectives, teaching and learning formats, workload distribution, forms of assessment, and module coordinators. Add missing module descriptions (Seminars, Research paper, Pre-Doctoral Examination, Thesis), and make them accessible for all relevant stakeholders.
- A 2. (ASIIN 2.2, 3.1) Strengthen the English language skills of the students so that they are able to better cope with job-market demands.
- A 3. (ASIIN 3.2) Put in place a process for monitoring the students' workload and, if necessary, adapting the credit point allocation in order to make sure that there is enough self-study time for preparing and following up the learning units.
- A 4. (ASIIN 4) Make sure that PhD thesis topics generally relate to the interdisciplinary and management objectives of the degree programme.
- A 5. (ASIIN 7.2) Issue a Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student. In addition to that the Diploma Supplement should also contain fundamental information about the relevant national higher education system.

Recommendations

- E 1. (ASIIN 2.3) It is recommended to put more effort in a procedural implementation of the rules of recognition of academic achievements gained at other universities that is compliant with the binding provisions of the university.

- E 2. (ASIIN 5.1) It is recommended to give the teaching staff more time to broaden their didactical and/or subject-related abilities.
- E 3. (ASIIN 5.2) It is recommended to improve the cooperation between the faculties representing the different disciplines of the programme in order to strengthen the interdisciplinary approach of the study concept of the degree programmes.
- E 4. (ASIIN 2.3, 6.1) It is recommended to fully implement and further develop the quality assurance system in terms of the feedback process of teachers' evaluation and the follow up-process for the different stakeholder surveys. Cohort-wise statistical data should be documented and analyzed in order to make proper use of the results in the quality enhancement of the study programme.

G Decision of the Certification Committee (October 2017)

Assessment and analysis for the award of the ASIIN Certificate:

The Certification Committee discusses the procedure. It follows the assessment and recommended resolution of the peers without any changes.

The Certification Committee decides to award the following certificate:

Name of the PhD Programme	ASIIN Certificate	Max. duration of certification	Alignment to a Qualification Framework Level
Sciences in Natural Resources Management	With requirements for one year	30.09.2023	8

Requirements

- A 1. (ASIIN 2.1, 2.4, 3.2, 3.3) Rewrite the module descriptions so as to include more detailed information about the content, qualification objectives, teaching and learning formats, workload distribution, forms of assessment, and module coordinators. Add missing module descriptions (Seminars, Research paper, Pre-Doctoral Examination, Thesis), and make them accessible for all relevant stakeholders.
- A 2. (ASIIN 2.2, 3.1) Strengthen the English language skills of the students so that they are able to better cope with job-market demands.
- A 3. (ASIIN 3.2) Put in place a process for monitoring the students' workload and, if necessary, adapting the credit point allocation in order to make sure that there is enough self-study time for preparing and following up the learning units.
- A 4. (ASIIN 4) Make sure that PhD thesis topics generally relate to the interdisciplinary and management objectives of the degree programme.
- A 5. (ASIIN 7.2) Issue a Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student. In addition to that the Diploma Supplement should also contain fundamental information about the relevant national higher education system.

Recommendations

- E 1. (ASIIN 2.3) It is recommended to put more effort in a procedural implementation of the rules of recognition of academic achievements gained at other universities that is compliant with the binding provisions of the university.
- E 2. (ASIIN 5.1) It is recommended to give the teaching staff more time to broaden their didactical and/or subject-related abilities.
- E 3. (ASIIN 5.2) It is recommended to improve the cooperation between the faculties representing the different disciplines of the programme in order to strengthen the interdisciplinary approach of the study concept of the degree programmes.
- E 4. (ASIIN 2.3, 6.1) It is recommended to fully implement and further develop the quality assurance system in terms of the feedback process of teachers' evaluation and the follow up-process for the different stakeholder surveys. Cohort-wise statistical data should be documented and analyzed in order to make proper use of the results in the quality enhancement of the study programme.