



# **ASIIN Accreditation Report**

**Bachelor's and Degree Program**  
*Forest Engineer*

**Master's Degree Program**  
*Master of Forest Sciences*

offered by  
**Autonomous University of Nuevo León**

## Basic information about the accreditation procedure

<b>Degree programs</b>	<p><b>Bachelor's Degree Program Forest Engineer</b></p> <p><b>Master's Degree Program of Forest Sciences</b></p>
<b>Higher Education Institution</b>	<b>Autonomous University of Nuevo León</b>
<b>Seals applied for</b>	<p>The Higher Education Institution has applied for the following seals and labels:</p> <ul style="list-style-type: none"> <li>• ASIIN seal for the degree programs</li> </ul>
<b>Peer panel</b>	<p>Bernard Cloutier, Solios Environmental Inc.</p> <p>Prof. Dr. Heribert Jacke, Universität Göttingen</p> <p>Guillermo Riva Reyes, Alumnus of University of Guadalajara, Scholarship holder of DAAD Mexico</p> <p>Dr. Timothy Synnott, Independent Forester</p>
<b>ASIIN Procedure Manager</b>	Dr. Georg Ebertshäuser
<b>On-site visit</b>	The on-site visit took place on 15 <sup>th</sup> and 16 <sup>th</sup> of May 2013.

# Table of Contents

<b>A Preliminary Remark .....</b>	<b>4</b>
<b>B Report of the peers (Accreditation Report) .....</b>	<b>5</b>
B-1 Formal specifications.....	5
B-2 Degree Program: content concept & implementation .....	6
B-3 Degree program: structures, methods and implementation.....	17
B-4 Examinations: system, concept and organisation.....	23
B-5 Resources.....	26
B-6 Quality Management: further development of degree programs.....	31
B-7 Documentation and transparency.....	36
<b>C Additional Information .....</b>	<b>38</b>
<b>D Comment of the HEI (17.07.2013) .....</b>	<b>39</b>
<b>E Final Assessment of the peers (16.08.2013) .....</b>	<b>43</b>
<b>F Comments of the Technical Committee .....</b>	<b>45</b>
F-1 Technical Committee 08 - Agronomy, Nutritional Sciences and Landscape Architecture (05.09.2013) .....	45
<b>G Decision of the Accreditation Commission (27.09.2013) .....</b>	<b>45</b>

## **A Preliminary Remark**

The on-site visit for the above mentioned degree programs took place on 15<sup>th</sup> and 16<sup>th</sup> of May 2013.

Prior to the talks with the representatives of the university, the peers met to prepare their questions and to discuss the self-assessment report. Timothy Synnott was asked to act as speaker of the audit team for the aforementioned degree programs.

The peers had discussions with the following groups:

University management, responsible managers of degree programs, teaching staff, students.

Additionally, the auditors inspected the infrastructure and the technical equipment at Linares, Nuevo León, Mexico.

The following chapters relate to the Self Assessment Report provided by on the 15<sup>th</sup> of March 2013 as well as to the discussions and information provided during the on-site visit including samples of exams and final theses

The assessment and the award of the ASIIN seal are always based on the European Standards and Guidelines (ESG) and the Subject-Specific Criteria of Technical Committee 08 Agronomy, Nutritional Sciences and Landscape Architecture, valid at the time of conclusion of the contract.

The report has the following structure: Chapter B presents the facts which are necessary for the assessment of the requested seals. The information principally stems for the self-assessment report and related appendices provided by the Higher Education Institution. An analysis and separate assessments of the peers about the compliance with the criteria for the requested seals follow. The assessment of the peers is preliminary and subject to changes based the subsequent information. The statement of the HEI is included with the exact wording. The final recommendation of the peers is drafted after and based on the statement of the HEI (and additional documents, if applicable). The Technical Committee make a proposal for the accreditation decision (chapter F). The final decision is taken by the Accreditation Commission for Degree Programs (chapter G).

Any gender-specific terms used in this document apply to both women and men.

## B Report of the peers (Accreditation Report)

### B-1 Formal specifications

a) Name and awarded degree	b) Study mode	c) Program Duration & Credit points	d) First & annual enrollment	e) Expected intake	f) Fees
Forest Engineer / B.Eng.	Full time	9 semester 198 ECTS	WS 1983 WS	60 per year	2705 MXN\$ for first semester, 2485 MXN\$ for each of the following semester
Master of Forest Sciences/ M.Sc.	Full time	4 semester 80 ECTS	WS 1992 WS/SS	12 per year	4520 MXN\$ for first semester, 4300 MXN\$ for each of the following semester

#### **Analysis of the peers:**

The peers found the formal details of the Bachelor's and Master's degree programs adequately described by the HEI. They asked if the number of 60 new students every year is not in excess of the real demand on the job-market. The representatives of the HEI stated that the Bachelor's degree program enjoys a steadily growing demand for several years in a row now, but that the capacity of the Faculty of Forest Sciences as well as the demand on the local and national labor-market is still in league with student intake and graduate output.

The peers thought the studies' fee of 2705/2485 MXN\$ for the Bachelor's degree program and 4520/4300 MXN\$ for the Master's degree program respectively are quite large a sum. They wanted to know if the students can really afford to study forestry at the HEI. The representatives of the HEI explained that most of the students (i.e. 90%) receive government grants and stipends to cover the costs of the studies' fee. It is therefore guaranteed that everybody who is willing to undertake a course of studies at the HEI can enroll and does not have to refrain from studying for lack of funds.

#### **Assessment of the peers:**

##### **For the award of the ASIIN seal**

##### *Criterion 1 Formal specifications*

The peers found all relevant characteristics and classifications well documented in the academic system. The criteria for the award of the ASIIN seal are all fulfilled.

## **B-2 Degree Program: content concept & implementation**

### **B-2-1 Objectives of the degree programs**

### **B-2-2 Learning outcomes of the programs**

For the Bachelor's degree of Forest Engineer the institution in the self-study report states the following as **objectives of the degree program**:

- To transmit knowledge to its students along with the necessary skills for application in the service of our society.
- Alumni should be able to balance the function of natural ecosystems and human requirements in an integral and sensitive manner.
- To gain knowledge and understanding of ecosystem structures and processes.
- To practice comprehensive assessment by taking inventory of natural ecosystems.
- To gain understanding of how to balance natural cycles of forests applying sustainable forestry practices with the social, economic and environmental needs and commitments
- Students qualify for scientific research and postgraduate studies in its basic, applied and analytical forms considering regional, national and international issues.

For the Master's degree of Forest Sciences the institution in the self-study report states the following as **objectives of the degree program**:

- To transmit knowledge to its students along with the necessary skills for application in the service of our society.
- Alumni should be able to balance the function of natural ecosystems and human requirements in an integral and sensitive manner.
- Graduates will acquire the skills to document and analyze environmental, ecological and social constraints to develop specific action recommendations.
- To form professionals with knowledge, abilities and attitudes those qualify graduates as specialists in management, production and conservation of forest resources, research and teachings.
- Professionals carry out a wide range of tasks associated with active management on forest lands
- The Master of Science program provides a foundation for students planning to pursue advanced doctoral degrees in related fields.

As **intended learning outcomes** of the Bachelor's degree of Forest Engineer program the institution states in the self-study report

- To advance to positions of increased responsibilities.
- To become consultants and members of forest professional and related professional societies.
- To qualify and contribute to the forest engineering profession and society.
- To gain employment in private and government organizations of the forest engineering profession and related fields.
- To engage in continuing education activities and pursue company training.
- To attend technical conferences.
- To pursue graduate studies in the forest engineering profession and related fields and receive post Bachelor degrees.

As **intended learning outcomes** of the Master's degree of Forest Science program the institution states in the self-study report:

- To advance to positions of increased responsibilities.
- To become consultants and members of forest professional and related professional societies.
- To contribute to the forest sciences and society.
- To gain employment in private and government organizations of the forest profession, forest sciences and education.
- To encourage students use a foreign language (principally English) to express themselves in both, oral and written form.
- To engage continuing education, pursue company training and teaching abilities.
- To encourage students to participate in international exchange programs and internships.
- To attend technical and scientific conferences on regional, national and international level.
- To pursue graduate studies in the forest profession and related fields and receive post Master's degrees.
- To prepare students as competent leaders as well as to enforce their capacity for teamwork and decision making.

The intended learning outcomes are published in print and are available in the Faculty of Forest Sciences.

### **Analysis of the peers:**

The peers were in full accord with the objectives of both the Bachelor's degree program and the Master's degree program as stated by the HEI. The objectives reflect the current academic state in international forest sciences. The peers found the intended learning outcomes in agreement with the programs' objectives, and in accordance with the intended level of qualification. They perceived that the objectives of the degrees programs and the learning outcomes are published in print and are available at the Faculty of Forest Sciences for consultation by the students or other interested parties. The peers asked whether a publication online is planned or intended. The representatives of the HEI informed the peers that the relevant information on objectives and learning outcomes undergoes a process of revision and will be available online in Spanish and English languages on the website of the Faculty of Forest Sciences not later than June 2013.

### **Assessment of the peers:**

#### **For the award of the ASIIN seal**

*Criterion 2.1 Objectives of the degree program*

*Criterion 2.2 Learning outcomes of the program*

The peers testified that the higher education institution has duly classified the final degree in academic and professional terms, including the allocation to a level of higher education institution degree within the national or European Qualifications Framework.

The intended learning outcomes for the program as a whole have been specified. They are accessible to the relevant stakeholders, particularly lecturers and students, but not yet in a way that students are able to appeal to them for example in the scope of the internal quality assurance system. The peers therefore requested that the HEI publishes the intended learning outcomes in a legal form so that students may rely on them. The intended learning outcomes reflect the level of the qualification sought; and are achievable, valid, and reflect currently foreseeable developments in the subject area.

Relevant stakeholders were involved in the formulation of the learning outcomes.

The intended learning outcomes reflect the orientation framework for the subject concerned as described in the relevant ASIIN Subject-Specific Criteria. The names of the programs reflect the intended learning outcomes.

### **B-2-3 Learning outcomes of the modules/module objectives**

The **objectives of individual modules** are published in the module descriptions.

The module descriptions are available in printed form to students and other interested parties.

**Analysis of the peers:**

The peers recognized the meticulous work represented in the existing module handbook. The module handbook provides detailed and relevant information concerning learning objectives of the modules, course contents, exams, prerequisites for admission, literature for self-study, workload in hours, and credit points awarded. The peers asked about a possible future online publication of the module handbook. The representatives of the HEI declared that – as in the case of the programs objectives and learning outcomes – the online publication of the module handbook is planned for not later than June 2013.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 2.3 Learning outcomes of the modules/module objectives*

The intended learning outcomes for the program as a whole are systematically put into practice within the individual modules of the program.

The modules are described in a module handbook which is available for relevant stakeholders – particularly students and lecturers – for consultation, and provides a basis for the further development of the modules.

The descriptions of the modules make it clear what knowledge, abilities and competences students are expected to acquire in the individual modules. The intended learning outcomes and the prerequisites for achieving them are clearly understandable to students.

## **B-2-4 Job market perspectives and practical relevance**

The HEI mentions the following job perspectives for the graduates:

The job opportunities of graduates are generally good. Graduates are employed by Government Agencies such as the Ministry of Environment and Natural Resources (SEMARNAT), 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), the National Forestry Commission (CONAFOR), Federal Power Commission (CFE) and Mexican State Oil Company (PEMEX) and similar international oil companies allocated in Mexico for the service of PEMEX. In forest management companies, graduates are typically placed into supervisory or department head

positions. In forest enterprises the graduates are placed into staff positions, they are also involved with company-wide operational decisions. Furthermore, in some instances, graduates own their own consulting firms to conduct land use change studies, to establish forest management plots, nurseries, advice ranchers for proper plant cover and wildlife management, among other activities. In nongovernment agencies (NGOs), graduates have leadership positions in projects related to environmental education. In the educational area graduates may develop a professional carrier in public education institutions or conduct research in State Universities or to pursue graduate studies (Master and/or Doctoral Degrees) in national or international Higher Education Institutions.

Practical relevance of the programs shall be achieved by:

Course work emphasizes the quantitative as well as the oral and written communication skills and competences necessary for managing valuable assets and making decisions. Filed instructions include laboratory problems and trips to forest operations and utilization complexes.

#### **Analysis of the peers:**

The peers started the discussion on the topic of job market perspectives with the question where the alumni of the Faculty of Forest Sciences are going to find an employment. The representatives of the faculty stated that most of the graduates of both, the Bachelor's degree program of Forest Engineer and the Master's degree program of Forest Sciences will find an employment in the region of Northeastern Mexico, or the State of Nuevo León respectively. The representatives of the faculty declared that major job opportunities can be found in government institutions and nongovernmental organizations. Since the wood industry in the region is relatively weak, jobs in wood-working companies are not that common. Besides, most of the alumni prefer to work for NGO's or the government.

The peers asked if all the graduates can manage to find a job, especially since the number of new students accepted in the Bachelor's degree program has risen to 60 freshmen a year. The representatives of the HEI confirm that the increased intake of students reflects the increasing demand of graduates on the labor market.

The peers perceived that the Faculty of Forest Sciences is well adapted to the demands of the job market in the region of Northeast Mexico and that its degree programs mainly aim to satisfy the needs of the region. As wood production and harvesting is relatively weak in the State of Nuevo León because of a lack of valuable timber specimens, the HEI focuses on other aspects of the labor market, i.e. government institutions and agencies.

### **Assessment of the peers:**

#### **For the award of the ASIIN seal**

##### *Criterion 2.4 Job market perspectives and practical relevance*

The peers were satisfied that there is a demand on the labor market for graduates who possess the intended learning outcomes (competencies). The competences as presented thus allow graduates to work in a sphere appropriate to the qualification.

Overall, the training offered is appropriately linked to professional practice (external projects, laboratories, placements, etc.).

## **B-2-5 Admissions and entry requirements**

Articles 1 to 12 of the General Regulations on the procedures for admission and permanence of students stipulate the following admission and entry requirements as abstracted and summarized in the HEI self-study report:

The university announces the deadlines for the enrolment process on the UANL website and in national newspapers twice a year, at the end of the previous semester. Students must take the National Enrolment Exam (EXANI II) provided by the National Center for Educational Evaluations C.O. (CENEVAL). This examination includes a section on Agri-Biological Sciences for applicants to the Forest Engineer (FE) Program.

The students have to be registered for EXANI II at the Office of Student Affairs of the Faculty of Forest Sciences (FFS), which accepts or rejects applicants based on the EXANI II score. The minimum score for admission is 800 points out of 1450, the maximum score. It should be pointed out that after 2009 the minimum EXANI II score for acceptance was raised to 900 points by the Register of the FFS. The EXANI II consists of five modules and a section on General Education that includes 110 questions per test and an English Language section.

Rules for the recognition of external study attainments/achievements are stipulated in Articles 39 to 59 of the General Regulations on the procedures for admission and permanence of students and especially in Articles 41-42 and 46-51 regulate that:

41. The equivalence is the Declaration of equal value given to studies in institutions of the national education system with the own University.

42. The revalidation and equivalence of studies will be awarded by levels of education, school grades, subjects or other units of learning, as provided it for the respective regulation.

46. Request revalidation and equivalence of studies may be processed by levels of education, school degrees and subjects, when substantially in accord with the similar enrolled in the university, in the opinion of the relevant faculty.

47. Request revalidation and equivalence shall be made in writing and accompanied by certificates and curriculum subject, even when you do not have the same name.

48. Only original certificate, duly legalized by the relevant authorities will be accepted.

49. Documents or certificates which cover studies pursued abroad shall be duly certified (apostillados) by the Mexican Consul of the place in which they were issued.

50. All documents in a language other than Spanish shall include the corresponding translation.

51. All revalidation and equivalence of studies must be approved by the academic Committee of the directive Board of the school or corresponding faculty and have the certification of the Director.

#### **Analysis of the peers:**

The peers found the admission and entry requirements sufficiently clear and transparent. The regulations are published and easily accessible both in print and online. Regulations concerning the recognition of achievements and activities completed at other universities or externally do exist. The peers judged the governing regulations complete and comprehensive.

#### **Assessment of the peers:**

##### **For the award of the ASIIN seal**

##### *Criterion 2.5 Admission and entry requirements*

The procedures for admission to the program are governed by strictly applied and transparent procedures and quality criteria.

The admission and entry requirements are designed to facilitate the achievement of the learning outcomes. They therefore ensure that those students admitted possess the required competences and formal training.

Rules are in place to enable flexibility in the admission for those who fall short of some admission or entry requirements. Compensating missing prerequisites should not impact the level of the program.

The admissions and entry requirements ensure that all applicants are treated equally.

Regulations are in place covering the recognition of activities completed externally. They ensure that the learning outcomes are achieved at the intended level.

## B-2-6 Curriculum/content

For the Bachelor's degree program of Forest Engineer:

Learning Unit/Module	Curricular Area	Distribution of hours and credits			
		Hours and CPs obligatory	Hours and CPs elective	Total hours per area	Total CPs per area
Communicative Competence (Rhetoric), Arts Appreciation, Social Anthropology, Information Technologies Applications, Environment and Sustainability, Communicative English Competence, Professional Social Context, Ethics, Society and Profession,	Basic studies	480 h 20 CPs	0 h 0 CPs	480 h	20

B Report of the peers (Accreditation Report)

Learning Unit/Module	Curricular Area	Distribution of hours and credits			
		Hours and CPs obligatory	Hours and CPs elective	Total hours per area	Total CPs per area
Psychology and Professional Development, Academic and Professional Development					
Mathematics, Botany, Zoology, Chemistry, Physics, Statistical Fundamentals, Soil Science, Ecology, Plant Physiology, Introduction to Forest Management, Geological Survey and Photogrammetry, Landscape Ecology, Forest Measurement, Silviculture, Hydrology, Conservation Biology, Statistical Methods, Economics, Elective (5),	Professional Basic	1248 h 61 CPs	320 h 15 CPs	1568 h	76
Forest Biometrics, Plant Nursery and Reforestation, Wood Anatomy and Technology, Wildlife, Forest Diseases, Forest Genetics, Forest Inventory, Forest Entomology, Forest Fire, Geographic Information Systems, Forest Management, Agroforestry Management, Environmental Legislation and Policy, Ecosystem Restoration, Elective (7)	Professional	960 h 46 CPs	416 h 19 CPs	1376 h	65
Elective (7)	Free Elective or Thesis	432 h 20 CPs	432 h	20	
	Social Service	480 h 16 CPs	0 h 0 CPs	480 h	16
<b>Total</b>				<b>4336 h</b>	<b>198</b>

For the Master's degree program of Forest Sciences:

Learning Unit/Module	Curricular Area	Distribution of hours and credits			
		Hours and CPs obligatory	Hours and CPs elective	Total hours per area	Total CPs per area
Evaluation of forest resources Ecology Statistic analysis Elective module I	Basic studies	360 h 12 CPs	120 h 4 CPs	480	16
Silviculture Biodiversity preservation Forest products Elective module II	Advanced studies	360 h 12 CPs	120 h 4 CPs	480	16
Forest management Agroforest management Forest health Elective module III	Applied studies	360 h 12 CPs	120 h 4 CPs	480	16
Elective module IV	Free to choose	0	120 h 4 CPs	120	4
Seminar I Seminar II Seminar II	Broadcasting	180 h 6 CPs		180	6
Thesis	Research	660 h Integrated product 22 CPs		660	22
<b>Total</b>		<b>1920 h 64 CPs</b>	<b>480 h 16 CPs</b>	<b>2400</b>	<b>80</b>

### **Analysis of the peers:**

The peers observed that the program of courses is long and comprehensive. They noted that the study programs and the work of the faculty are deeply rooted in the realities of the region of Northeast Mexico. The peers noted approvingly that the HEI adjusts the contents of the studies programs according to the needs of the local labor market. But they concluded that several of the components typically found in Forest Engineer courses are either absent or appear to be relatively weak. A course designed to match Forest Engineer programs in many countries of Europe would normally include more items like forest management, forest work, and forest work technology, i.e. courses about the economic use of forests and the harvesting and processing of timber and its various products. The representatives of the faculty explained that the curricula of the Forest Science programs are adapted to the local job market requirements which do not focus on the economic use of forests. Most graduates of the Bachelor's and Master's degree programs find employment in governmental institutions, offices, and ministries, or in nongovernmental organizations, which deal mainly with the preservation, protection, and ecology of

forests. The talks with the students supported the views explained by the representatives of the HEI. The students felt content with the course of studies and the curricula, and see their main employment objectives in government agencies in the region. The interest of the students in a job in a major company of the wood working industry is very modest.

The peers understood that the curriculum and course program is rooted in the realities of the region of Northeast Mexico. This orientation is strongest for the environmental realities of the region, but much less strong for the socio-economic realities. Faculty staff and researchers collaborate with communities, landowners and government projects throughout the region, but the peers perceive that the projects are usually oriented to biological, ecological or environmental aspects. The curriculum appears relatively weak in the economic and social issues of forest resource management.

The peers wondered why the curricula, especially of the Bachelor's degree program include courses with obviously no connection to the subject of Forestry and Forest Sciences, e.g. the appreciation of art, among others. The representatives of the faculty explained that these courses belong to a category of general content courses which are mandatory for every student at the HEI. The incorporation of these courses of studium generale is a policy of the HEI to strengthen the personal development of the students and enhance their soft skills. The teaching staff for these courses is detached from the HEI center and belongs not to the staff of the faculty, although – because the distance of the Linares' campus from the main campus in Monterrey – they reside on the site of the Faculty of Forest Sciences.

The peers asked why the last two semesters of the Bachelor's degree program of Forest Engineer are filled with several elective courses besides the Bachelor's thesis. They voiced the concern that the quality of the thesis might suffer under the workload of these courses. The representatives of the HEI explained that the students in the Bachelor's degree program have the choice between completing a thesis to obtain their final degree, or to substitute the thesis with the seven elective courses mentioned in the self-study report. The elective courses are therefore not taken parallel to a thesis, but as an alternative choice. The peers are satisfied by this explanation.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 2.6 Curriculum/content*

The curricula that are in place make it possible to achieve the intended learning outcomes by the time the degrees are completed.

The objectives and content of the individual modules are coordinated in order to avoid any unintended overlaps.

However, the peers felt that the content of the curriculum for the Bachelor's degree program is not fully reflecting all the items which are normally connected with and expected from a Bachelor's degree program of Forest Engineer. These items are wood management, wood work, wood work technology, work sciences, technical production, harvesting of timber, enterprise management, and forest economics. The peers therefore strongly recommend that the HEI should carefully consider which of the above subjects, and others, should be included in the further development of the curriculum in order to strengthen the basic skills of the graduates in an important part of forest sciences and thereby fostering their chances not only on the regional, but also on the national and international labor markets. Since the HEI is in a constant process of assessing and readjusting its programs according to the results of the alumni and employers surveys, a procedure which the peers very much approve of, the peers suggest the incorporation of the above mentioned items in the curriculum as the logical next step on the way of improvement that the HEI has already taken.

## **B-3 Degree program: structures, methods and implementation**

### **B-3-1 Structure and modularity**

The modules have the following size: In the Bachelor's degree program of Forest Engineer the module size varies between 2 to 4 credit points. The Bachelor's thesis in the ninth semesters comprises of 20 credit points but is not mandatory and can be substituted by seven elective courses with 3 credit points each.

In the Master's degree program of Forest Sciences almost all modules have 4 credit points; three modules have 2 credit points. The Master's thesis comprises 22 credit points.

International exchange of students in the Bachelor's degree program of Forest Engineer is facilitated by an internship program that focuses on international academic exchange. Students in this program can conduct international studies for an entire academic year, for six months, or for a month. Hosted institutions are the Georg-August-Universität

Göttingen (Germany), Platte River Whooping Crane Trust (Nebraska, USA), Texas Forest Service (USA), and Santiago de Compostela University (Spain).

The eighth semester of the Bachelor's degree program comprises of one social service module and three elective modules and is the semester most suitable for an international exchange.

In the Master's degree program of Forest Sciences students with a national scholarship (CONACYT) are entitled to convert their scholarship into an international one with a duration of one up to six months. Hosted institutions are the Georg-August-Universität Göttingen (Germany), Platte River Whooping Crane Trust (Nebraska, USA), Texas Forest Service (Texas, USA), Alicante University and Santiago de Compostela University (Spain).

#### **Analysis of the peers:**

The peers noted that the Bachelor's degree program of Forest Engineer with nine semesters is relatively long. The representatives of the HEI sufficiently explained this with the breadth and depth of the contents and the course of studies. The peers approved of the ample possibilities for the students to choose from a wide range of elective modules and courses to form an own focus of studies. They perceived that there is the opportunity to study abroad during the last two semesters, because the elective courses may be taken at a foreign university and integrated in the course of studies.

The peers asked concerning the Master's degree program of Forest Science about the actual distribution and length of courses. The representatives of the faculty explained that all the courses in the Master's degree program are organized in blocks, which are taught exclusively and fulltime over a period of normally two and a half weeks.

The peers approved the stringent concept of the Master's degree program where a research project is chosen by the student at the beginning of the program and continuously worked on and deepened over the course of the whole program. In each semester there is one seminar where the students present the progress of their research work so that there is a constant process of tutoring and control regarding the work in progress. At the end, during the fourth semester, the research project is written in a Master's thesis and defended in the final examination. The students showed their satisfaction with this order of studies. They stated that only the first of the above mentioned Master's seminars is mandatory, the other two are elective. Unfortunately, only a minority of the students makes use of these opportunities to get feedback on their research work.

### **Assessment of the peers:**

#### **For the award of the ASIIN seal**

##### *Criterion 3.1 Structure and modularity*

The programs are modular. Each module is a coherent and consistent package of teaching and learning in itself.

The range of modules is organized so as to ensure that it is possible to commence the program in every semester when admissions take place.

The size and duration of the modules allow students to combine them flexibly and facilitates the transfer of credits. The program concept allows for time to be spent at another higher education institution or on a practical placement without loss of time.

The Master's degree program does not incorporate any modules at undergraduate level. Any exceptions are convincingly justified in terms of the subject.

Individual students are not awarded credits for the same module at Bachelor's and again at Master's level, or for modules whose content is basically the same.

### **B-3-2 Workload and credit points**

According to the institution, 1 ECTS credit equates to 25 – 30 hours of student workload. In the Bachelor's degree program of Forest Engineer, workloads vary modestly within the prescribed range. In the Master's degree program of Forest Science, 1 ECTS equates 30 hours of student workload exactly.

In the Bachelor's degree program of Forest Engineer each semester 20 to 25 ECTS are awarded. In the Master's degree program of Forest Science, each semester 18 to 26 ECTS are awarded.

### **Analysis of the peers:**

The peers found that the time budgets for the different courses and modules are realistic and reflect the real workload of the students. They saw that a credit point system is in place and conforms to the standards set in the ECTS. The students confirmed this positive picture. They declared the workload of the degree programs realistic and manageable. The students found the system of credit points and their distribution throughout the modules transparent and conceivable.

### **Assessment of the peers:**

#### **For the award of the ASIIN seal**

##### *Criterion 3.2 Workload and credit points*

Student workload is set at a level that avoids structural pressure on training quality and requirements for the level of study.

Projected time budgets are realistic, so that the program can be studied within the standard period of study for the degree.

A credit point system is in place. All the work done by students is appropriately represented within it (25–30 h/1CP). All compulsory components of the program are awarded credit points.

The allocation of credit points to modules is transparent and logical.

Credit points are only given if the learning objectives of a module have been achieved.

Rules for recognizing external activities are in place. These facilitate transfers between higher education institutions and ensure that the learning objectives are achieved at the intended level.

### **B-3-3 Educational methods**

According to the self-assessment report, the following educational methods are in use for the Bachelor's degree program of Forest Engineer and the Master's degree program of Forest Sciences:

- laboratory exercises in different disciplines/modules
- discussions of contemporary issues
- presentations
- team-works to solve problems or questions of a particular topic
- presentations of case studies
- research of a particular topic/issue and defense of the own viewpoint on it
- field trips and excursions to different forest ecosystems
- conduct of social service
- projects, e.g. could be a thesis or an independent research project
- weekly seminars on forestry, current environmental and health issues
- summer research internships or international exchange programs
- participation in regional, national or international conferences
- guided visits to industry related to forest sciences

The ratio of contact hours to self-study in the Bachelor's degree program of Forest Engineer is roughly 1 hour of self study to 2,5 hours of lectures. In the Master's degree program of Forest Sciences the ratio is approximately 2,2 hours of self study to 1 hour of lectures.

Options for elective modules are available:

Bachelor's degree program of Forest Engineer:

There are 12 elective modules during the course of the whole studies program. The ninth semester comprises of the Bachelor's thesis or seven additional elective modules, which can be chosen by the students instead.

Master's degree program of Forest Science:

4 elective modules, one for each semester during the course of studies, can be found in the Master's degree program. These 4 modules can be chosen from an extensive catalogue of 35 possible elective modules.

**Analysis of the peers:**

The peers perceived that in the Bachelor's degree program of Forest Engineer the ratio of lecture time to self-study time is about 70:30. They asked the program coordinators why the lecture time does take such a large part. The representatives of the faculty explained that this is due to the need of teaching basic knowledge in a broad range of subjects, a task which is only manageable by concentrating on the lecturing of the students. But this does only take place in the first two or three semesters of the Bachelor's degree program and changes gradually to a greater emphasis on self-studying during the latter stages of the program. The peers understood the rationale behind this arrangement and find the explanation sufficient. The students confirmed this view by stating that they perceive the Bachelor's degree program as a most-part self-study centered program, especially after some adjustments of the program structure in the past few semesters.

The peers acknowledged a quite large amount of elective modules which can be chosen from a wide array of possible courses. This allows the students to build their own focal points of studies and vary their courses of studies. The excellent mentoring and support facilities ensure that the students make sound choices and come to a solid individual table of courses, both in scientific and in professional or job market oriented respects.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 3.3 educational methods*

The teaching methods and tools support the achievement of the learning outcomes at the intended level by the time the degree is completed.

Besides compulsory components, there is a sufficient range of elective subjects to allow students to develop an individual focus.

The ratio of contact hours to self-study has been designed to ensure the achievement of the defined goals.

The available time allows students sufficient opportunity to carry out independent academic work.

### **B-3-4 Support and advice**

Offers for support and counselling of students are provided as described below:

Freshmen students are guided about the organization and functioning of the faculty, facilities distribution and their proper use by offering an inductive course at the beginning of the first semester. The Academic Office assigns a tutor to each freshmen student for monitoring their academic performance, program progress, and scheduling the modules of general education and elective modules for each academic semester. The tutoring support is on a mandatory basis and is also at the discretion of the students. However, tutors may help students to guide and oversee financial sources for their studies if needed. In agreement with the UANL Vision 2020, the tutor also guides students to develop a holistic, professional, and human attitude for their educational activities. Each student remains under the supervision of the same professor along the duration of the Bachelor's or Master's degree program.

The faculty accounts with students engaged to community commitment to help classmates with physical disabilities. Besides, the faculty has requested to the Department of Physical Plant of the university to revise and to adjust present and facility services to integrate students with special needs in a better way.

#### **Analysis of the peers:**

The peers found the system of support and advice at the HEI very well implemented and producing admirable results. The mentoring system as explained in detail by the program coordinators ensures the guidance of every individual student from the start to the end of a degree's program. The students showed their great satisfaction with the measures taken by the faculty to help and support students in all aspects of academic life. This is also

true in the case of gender equality, where the peers note a very high degree of female students in a once male dominated field of studies. Female students confirmed that they are supported well and enjoy the same possibilities and chances as a male student.

The peers especially approved of the excellent atmosphere in the faculty and between students and teaching staff, which is marked by cordiality and mutual trust and respect.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 3.4 Support and advice*

Sufficient resources are available for offering individual support, supervision and advice to students.

The advisory methods envisaged (subject-specific and general) are suitable for supporting students to achieve the learning outcomes and complete their degree within the normal period of study.

There is a corresponding range of support available for different student groups.

## **B-4 Examinations: system, concept and organisation**

According to the self-assessment report and the information gathered during the discussions, the **exam methods** described subsequently are foreseen:

In case of the Bachelor's degree program of Forest Engineer the evaluation of student performance is certified to the ISO-9001-2008 standards. At the end of each semester the students have to attain a minimum of 70 points to succeed the module in a scale from 0 to 100 points.

There generally are two or three midterm exams (partial examination) or other types of students works requested by the professor responsible of the module. Two weeks before semester end, there is a period of final examination without lectures for the students to prepare their examination, handle field or lab reports, seminars or other work depicted in the instructions forms.

In case a student fails an examination, he according to the regulation of UANL General Exam has five extra opportunities to pass the module in two consecutive semesters according to the approval of the UANL University Council. At the sixth opportunity, the student must pass the exam otherwise the UANL student rights are permanently lost. In case

that a student fails a module which is a prerequisite of a sequence of modules, he cannot take the sequence modules.

The final thesis in the Bachelor's degree is normally taken at the end of the program. The design projected is in written form and presented and defended during a seminar. The design project is the thesis. It must go through a written proposal submitted to the faculty's program Academic Committee. The thesis project may be substituted with seven elective modules additional to normal course of studies.

In the Master's degree program of Forest Science the students have to attain a minimum of 80 points at the end of a semester to pass the module in a scale from 0 to 100 points.

During the course of a module, students present, in general, one final evaluation (oral or written). All examination components are in accordance to the rubric given to the students by the responsible lecturer.

When a student fails a module in his ordinary term, the regulation of UANL General Exam states that the student has one extra opportunity to pass the module. In the case, he fails again, the student will be exmatriculated. Students also get exmatriculated if they fail in more than one module.

The Master's degree program focuses on the development and elaboration of an original research work, which is obligatory and culminates in the Master's thesis. At the beginnings of the program students have to submit a written research proposal to be approved by the Program Academic Committee. During their course of studies the students have to present three seminars to explain their research advances. The finished written thesis is defended in public during a final examination.

#### **Analysis of the peers:**

The peers discussed with the program coordinators the mode of examinations at the Faculty of Forest Sciences. They especially wanted to know, why examinations in modules of the Bachelor's degree program can be repeated six times by the students in case of failure, whereas in the Master's degree program a repetition is only allowed twice. The program coordinators explained that this specific regulation is in power for the whole HEI for the Bachelor's degree level. It is to ascertain that every student has a fair chance to successfully conclude their basic level of university education. In fact, such regulations are common throughout Mexico and stem from a national policy.

The peers thought one – the last – semester is a short time to complete an ambitious research project as a Master's thesis, as stipulated by the relevant regulations. The program coordinators explained that the research project that finally leads to the Master's thesis is

chosen by the students at the beginning of the Master's degree program, and continually worked on through the course of the program. A seminar every semester in which the students present and explain the progress of their research work monitors the project closely. The final semester is reserved for the completion of the thesis as such.

The peers finally wanted to know how high the drop-out rates in the examinations and the whole program are. The program coordinators could show that the close tutoring and mentoring of the students ensures the success of most of the students. The drop-out rates seem at least to be lower than the excessive Mexican average.

The peers made themselves sure in the discussion with the program coordinators that the thesis in the Bachelor's and Master's degree programs is accompanied by an oral examination in which the student defends the results of his thesis project. The peers understood that the thesis project in the Bachelor's degree program can be substituted with a row of seven elective courses. The program coordinators explained that this procedure is common on a national level, because past has shown that not all students come to grips easily with a thesis type examination form. To ensure that all types of student personalities can attain the Bachelor's degree program's aims two alternatives forms of final examination were implemented.

### **Assessment of the peers:**

#### **For the award of the ASIIN seal**

##### *Criterion 4 Examinations: system, concept and organization*

The type, organization and distribution of examinations are designed to support the attainment of the intended learning outcomes by the time the degree is completed.

Examinations are coordinated so that students have sufficient time to prepare for them.

The timescale for marking exams does not interfere with individual academic progression; it is possible to move directly from the Bachelor's degree to the Master's without loss of time.

The form of examination is laid down in the module description for each module. It is ensured that at the commencement of the teaching term, students are informed as to examination and pre-examination requirements.

The examination organization guarantees examinations that accompany study and avoids causing extensions to the period of study. However, the peers strongly recommend reducing the number of attempts for failed examinations. The Faculty of Forestry should try to seek a reexamination of the university rule in question.

Because the peers regard drop-out rates as relatively high, they strongly recommend that methods of reducing the drop-out rate, including more careful selection, should be an explicit component of continuous review and improvement.

The evaluation criteria are transparent for lecturers and students and focus on achieving the learning outcomes.

The degree programs end with a final thesis or equivalent that guarantees that students can carry out an assigned task independently and at the level of the qualification sought.

It is checked whether students are capable of orally discussing a problem from their specialist area and how it might be solved, placing it in the context of the subject. At least one of the examiners of the final thesis must belong to the body of professional lecturers who deliver the program.

The supervision of final thesis carried out externally is subject to strict regulations ensuring its meaningful incorporation within the curriculum.

## **B-5 Resources**

### **B-5-1 Staff involved**

According to the HEI, the teaching staff is composed of 25 full-time full professors. In addition there are teaching and research assistance, technical and laboratory staff, library staff, and administrative personnel.

#### **Analysis of the peers:**

The peers liked to know whether the existing teaching staff is sufficient to sustain the Bachelor's and Master's degree programs. The program coordinators explained that the staff is fully sufficient. Every full professor does 16 weeks of lecturing during one semester, which is quite a lot, but provides ample time resources to fulfill all teaching obligations.

The peers asked about the amount of support given to the professors, especially if there is sufficient technical and administrative staff. The program coordinators stated that the faculty staff contains several secretaries, although not for every professor. But every professor has his own technical and research assistant. The laboratories are provided with technical staff also.

The peers got the impression that all the professors in the Bachelor's and Master's degree programs are highly qualified and fulfill their task both in teaching and research work. All professors have a good relationship to their students, are easily and any time available for questions, and support their students in every aspect. The students stressed the engagement, skill, and supportiveness of their professors very much.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 5.1 Staff involved*

The composition and (specialist) training of the teaching body ensure that the intended learning outcomes are achieved by the time the degree is completed.

The research and development activities of teaching staff are such as to ensure that the educational level sought is attained.

The available contact hours (overall and for individual lecturers) are sufficient for teaching and student supervision.

## **B-5-2 Staff development**

The institution reported on the following measures to subject-related and didactical further training for staff:

- Travel funds of the faculty for professional activities funded by PIFI (Integral Program for Institutional Strengthening) and research projects of faculty members.
- Sabbatical year: every faculty member can apply for a sabbatical leave of one year every six years. Permission is not guaranteed, but depends on capacities.
- University research grants from the Research Support Program for Science and Technology (PAICYT) are announced on a yearly and competitive basis. Undergraduate and graduate students may apply with a thesis project, too.
- A research stays program funded by PIFI supports faculty members in planning, organizing, and implementing research stays, as well as publishing the results in peer-reviewed journals or other publications.
- The Program for the improvement of professors is launched by the Secretariat of Public Education (SEP) for all national education institutions and bestows several awards and scholarships on qualified teaching staff. All members of the faculty have been awarded the Recognition to full-time professors with a desirable pro-

file. One faculty member has received a scholarship for graduate studies at the University of Göttingen.

- The University General Coordination of Planning and Strategic Projects supports faculty members in strengthening their teaching capabilities. Courses and meetings are held in-site or out-site of UANL main campus.
- The academic incentive program is offered on a yearly basis and is open to all faculty members. The aim is to provide an economic incentive based on research performance, academic development, tutoring, undergraduate and graduate students development, dissemination of knowledge, awards and recognitions, among other indicators of quality.
- Full-time and part-time scholarships are available on a yearly basis for all faculty members to conduct graduate studies in or out of the University. These scholarships are funded by the High Quality Graduate National Program (PNPC).

#### **Analysis of the peers:**

The peers learned that the faculty offers a wide range of opportunities and measures for their professors to improve themselves on academic, research, and teaching skills. The program coordinators and teaching staff stated that these possibilities are widely accepted and used by the faculty members. In fact, all the professors have been recognized and awarded in some form or other for their work skills.

All faculty members have an extensive amount of international experience, most have good to excellent contacts to foreign partner universities and institutions. The HEI supports research cooperations with international partners with various funding and incentive programs.

#### **Assessment of the peers:**

##### **For the award of the ASIIN seal**

##### *Criterion 5.2 Staff development*

Opportunities for further development of subject-relevant knowledge and teaching skills are available for lecturers.

### **B-5-3 Institutional environment, financial and physical resources**

The main financial source for the faculty is the state general fund allocated to the HEI and then transferred to each Faculty or department within the HEI.

The general funds support the program's basic operating needs: faculty and staff salaries, supplies and physical services, and to some extent, equipment and specific requisitions. Besides, the Faculty of Forest Sciences also receives financial support from 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 (UANL research programs, CONACYT, SEP, CONAFOR, PROMEP, among others) and in some instances, from donations.

The distribution of expenditures in recent years was as shown in the following table (in US\$):

No.	Expenditure Category	Fiscal Year		
		2009	2010	2011
1	Operation (not including staff)	\$ 157,452.24	\$ 682,952.78	\$ 660,863.84
2	Equipment			
	Own Income	\$ 6,150.93	\$ 98,923.84	\$ 59,368.91
	PIFI	\$ 104,000.00	\$ 177,258.82	\$ 124,601.67
	Research Grants	\$ 6,902.85	\$ 50,069.72	\$ 355,779.33
3	Travel	\$ 39,166.67	\$ 51,666.67	\$ 10,900.00
4	Library Services	NA	\$ 40,580.18	\$ 36,733.33
5	Scholarships (Undergraduate Students; FE and NRME Programs)	\$ 22,201.46	\$ 35,810.04	\$ 39,318.96
6	Salaries			
	Faculty (n=27)*	\$ 1,015,283.25	\$1,055,894.58	\$1,138,587.83
	Staff	\$ 342,396.72	\$ 356,092.58	\$ 396,178.25
	Total	\$ 1,693,554.11	\$2,549,249.21	\$2,822,332.11
	*Mean Faculty Salary	NA	\$ 41,951.95	\$ 43,791.84
Exchange Rate: \$ 12 MX Pesos = \$ 1 US Dollar				

According to the self-assessment report, the Faculty of Forest Science has concluded co-operation agreements with:

- Georg-August-Universität Göttingen, Germany, since 2010
- Kyushu University, Japan, since 2012
- Universidad Austral de Chile, Valdivia, Chile, since 2012
- Castilla-La Mancha University, Spain, since 2011
- Platte River Whooping Crane Trust (Nebraska), USA, since 2006
- École Supérieure du Bois, Nantes, France, since 2012
- Facultad de Ciencias Exactas y Tecnología Universidad Nacional de Tucumán, Argentina, since 2002

- National School of Forest Sciences, Honduras, since 1998
- College of Forestry, Wildlife and Range Science, University of Idaho, USA, since 1998
- Brandenburg University of Applied Sciences (Fachhochschule) Brandenburg, Germany, since 1997
- Forestry Faculty, University of Toronto, Canada, since 1996

### **Analysis of the peers:**

The financial situation of the HEI is good. The peers learned that the financial basis of the Bachelor's and Master's degree program is secured for the time being. In fact, funds have been moderately increasing over the last few years. The Faculty of Forest Sciences in Linares as a dependence of the main campus in Monterrey fulfills a special social and economic role in the development of the region, and is subsequently supported and funded by governmental institutions.

The peers could see that the campus of the HEI in Linares is new and technically on a very high level. There is ample room for teaching and research facilities. The peers get a very close and detailed picture from the different laboratories, student rooms, and class rooms, which are all very well equipped and administered. The library is not very extensive but constantly developed and offers all relevant literature relevant to the subjects taught. The computer pools are sufficient in quantity and quality, all necessary software is available. Cabled LAN and WLAN access is available throughout the campus.

The HEI has a lot of partner universities and institutions on the national and international level. The peers can see that all cooperations are well documented and have a stable legal contract basis. The students profit from the international contacts by opportunities of student exchange or research visits.

The representatives of the HEI explained to the peers that the HEI regards the further international development of the HEI as a primary goal of the HEI. The HEI will do its best to strengthen the international standing of the HEI and to make it more attractive to foreign students and visiting scholars.

Unfortunately, the insecurity in the civil environment in the recent years has had a certain impact on the activities of the Linares' campus. Students and staff were not able to use more far away facilities of the faculty, especially the HEI's forest in the mountains nearby the campus. But in the last two years security has improved so that normal excursion activities have resumed.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 5.3 Institutional environment, financial and physical resources*

The resources employed form a sustainable basis to achieve the intended learning outcomes by the time the degree is completed.

The financing of the programs is assured.

The infrastructure (e.g. laboratories, library, and IT provision) meets the qualitative and quantitative requirements of the degree programs.

Any cooperation required within the higher education institution is sufficient for the purpose and subject to definitive arrangements.

It is made clear which collaborations from outside the institution are used for the programs and to train students. These collaborations are also sufficient for the purpose and subject to definitive arrangements.

The organization and decision-making structures are suited to delivering the training measures.

The organization is able to react to problems, solve them and make up for shortfalls (e.g. staffing, financing, numbers of incoming student) without compromising students' opportunity to complete the degree in the normal time period.

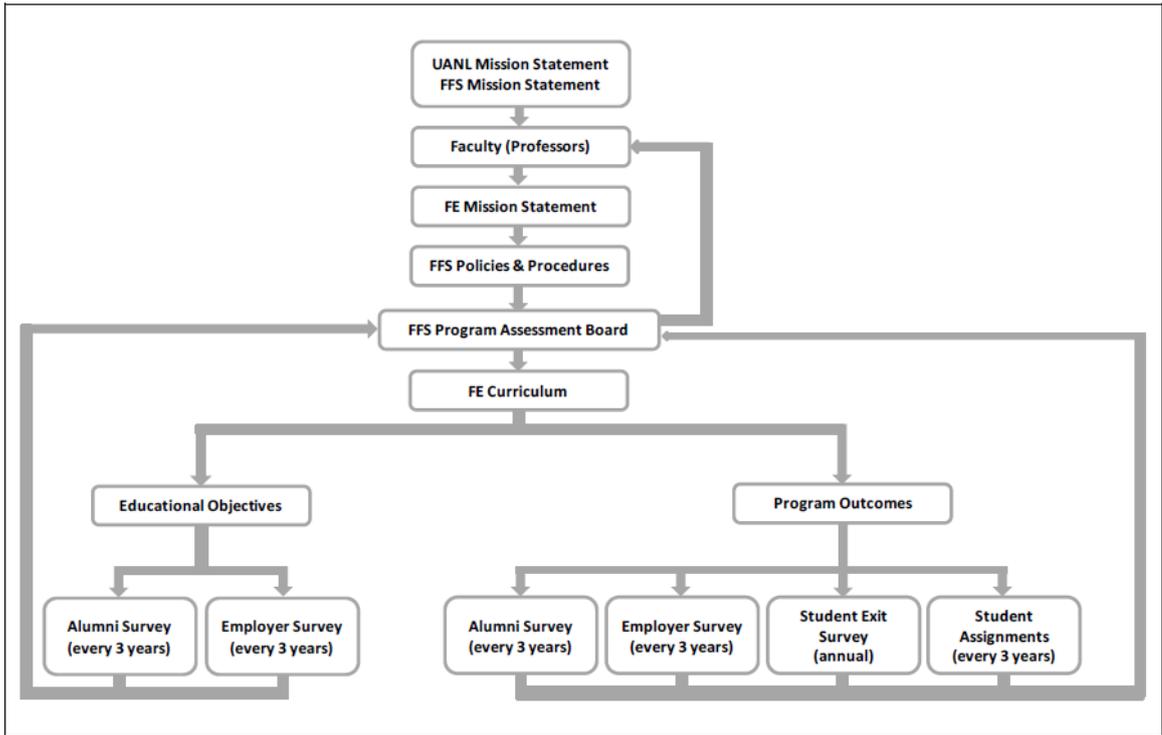
## **B-6 Quality Management: further development of degree programs**

### **B-6-1 Quality assurance and further development**

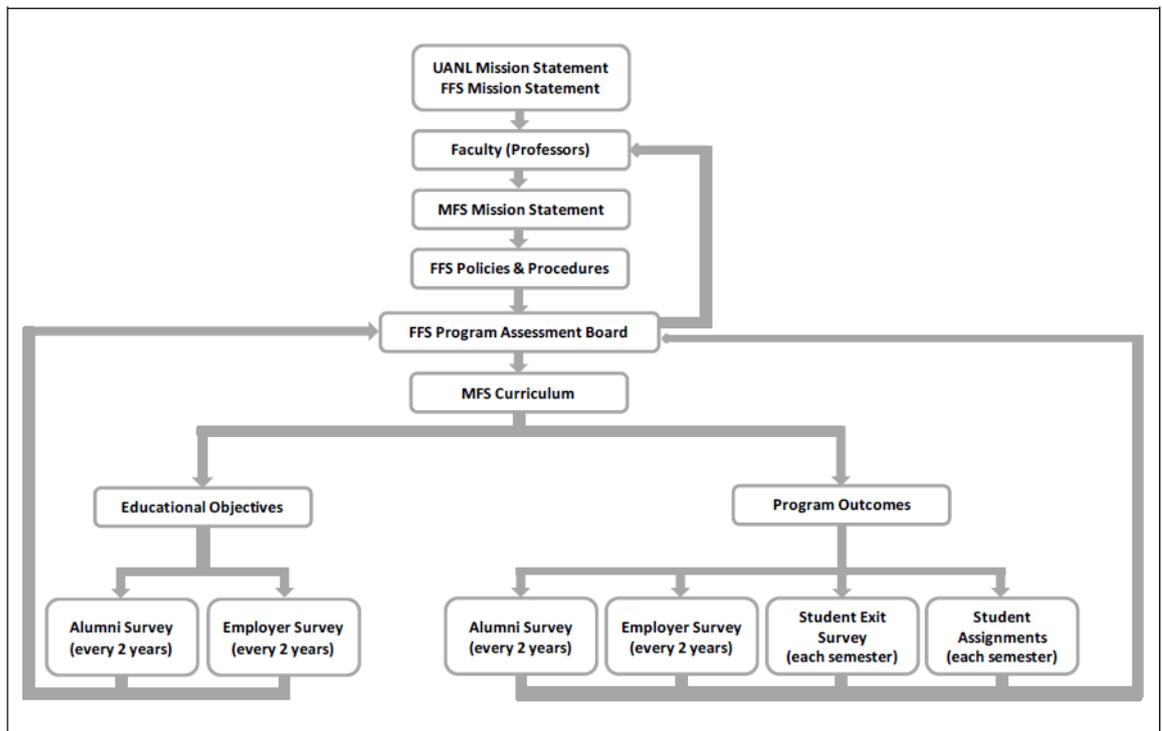
In 2010 the Faculty of Forest Sciences has established a system of quality management control which has been certified by TÜV-SÜD with the ISO-9001-2008 certificate. This quality management system is described as a Work Instruction Form and covers all the processes related to the work of the Faculty of Forest Sciences, as well as the continuous improvement of the system and its processes in order to regulate and facilitate the daily responsibilities of the academic and administrative staff. Structures, feedback cycles and improvement processes are shown in the following tables.

QMS for the Bachelor's degree program:

B Report of the peers (**Accreditation Report**)



QMS for the Master's degree program:



**Analysis of the peers:**

The peers perceived that the HEI has developed a relatively sophisticated system of quality management, which is ISO 9001 certified. The representatives of the HEI and the program coordinators explained that the degree programs are constantly reviewed and adapted according to the results of the evaluation and survey results. The peers understood that students, alumni, and employers are embedded in the quality management system's survey and reaction cycles, so that all interest groups are well represented.

The peers noted that the evaluation results are getting better during the last few semesters and are exceeding the set expectations in virtually all subjects. The program coordinators explained this partly by the relatively low return rates for the employers and alumni surveys and partly by the constant work on the improvement of the programs. The students confirmed that the work of the faculty has improved during the last few semesters perceivably, and the HEI is doing a good job in surveying its activities and adjusting work if necessary.

The peers asked if there is an evaluation of the lectures and the teaching of the staff members. The program coordinators explained that teaching is constantly evaluated and results communicated to the students. The students supported this explanation and show themselves content with the evaluation processes and its results and consequences.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 6.1 Quality assurance and further development*

As a basis for developing its degree program and delivering them, the higher education institution has developed and documented its understanding of quality in studies and teaching.

A quality assurance concept is in place. It is regularly further developed, and is designed to ensure the continual improvement of the degree program.

This quality assurance system enables the HEI to ascertain any failure to achieve goals; check on the extent to which the set goals are achievable and reasonable; and draft suitable measures.

Students and other stakeholders participate in quality assurance activities.

Mechanisms and scopes of responsibility have been determined to ensure the regular further development of degree program.

However, the peers recommended that the HEI continues on its way of systematically evaluation and further develops its system of quality management.

## **B-6-2 Instruments, methods & data**

The Faculty of Forest Sciences possesses a set of different instruments to assess the degree to which program objectives and student outcomes are attained. Every semester a student assignment and a student exit survey are conducted. Additionally, every three years in the case of the Bachelor's degree program, and every two years in the case of the Master's degree program, an alumni survey and an employer survey is held. The employer surveys and alumni surveys are conducted online at the beginning of the spring semester for the Bachelor's degree program and the fall semester for the Master's degree program. The surveys measure the degree by which the predefined Program Educational Objectives have been attained by a rating of 1 to 6 according to the Likert scale, i.e., 1=strongly disagree, 2=disagree, 3=neutral, 4=partially agree, 5=agree, 6=strongly agree. The last surveys conducted were in May 2012 for the Bachelor's degree program and in fall 2012 for the Master's degree program.

Outcomes of the last surveys were generally good. A number of 13 completed surveys had been returned in case of the Bachelor's degree program for the alumni survey. The average result was a 5.4, which amounts to either an agreement or strongly agreement to the proposed questions. This outcome exceeds the expected level of attainment by far, which lay at 3.5 and at least 70% of the objectives. For the Master's degree program a number of 21 completed surveys had been returned by the alumni, which equally good results, i.e. an average 5.6 on the Likert scale.

Although the employer surveys have shown equally encouraging results for both degree programs at a first glance, the return rates were too low to allow any serious conclusions.

The exit surveys are conducted with students who are leaving the Faculty of Forest Sciences after completing their respective degree program. These exit surveys are regarded by the university as the most accurate instrument in the assessing the quality of the faculty and the degree by which the self imposed goals and objectives have been reached. The exit surveys are conducted annually and have shown good results in both the Bachelor's degree program with an average of 4.9 on the Likert scale and the Master's degree program with an average of 5.2 on the Likert scale.

The analysis of the survey results by the Faculty of Forest Sciences Program Assessment Board has led to the definition and proscription of a catalogue of certain measures by which the faculty will try to improve the work of the faculty in the future.

**Analysis of the peers:**

The peers asked the program coordinators for some additional data about the evaluation system and the results gathered. The program coordinators provided the requested materials which show the detail contents, methods and results. Generally, the peers thought the evaluation system implemented by the HEI sufficient to fulfill the assigned task of surveying and improving faculty work. The high degree of the students' satisfaction with conditions and resources stress this positive picture.

**Assessment of the peers:**

**For the award of the ASIIN seal**

*Criterion 6.2 Instruments, methods & data*

Suitable methods and instruments are used to ensure that the quality of degree programs is maintained and further developed. They are documented and their effectiveness and efficiency are regularly reviewed.

The data gathered and evaluated by the higher education institution as part of its quality assurance system fulfills the following functions, among others:

- They show the extent to which the intended learning outcomes have been achieved by the time the degree is completed.
- They allow conclusions to be drawn as to whether a program can be successfully completed.
- They permit conclusions to be drawn as to how mobile students are, internationally and otherwise.
- They provide information about student employment upon completing their degrees.
- They permit conclusions to be drawn regarding the effectiveness of any measures which may be in place to prevent unequal treatment at the higher education institution.
- They make it possible for those responsible for a program to recognise weaknesses and correct them.

## **B-7 Documentation and transparency**

### **B-7-1 Relevant regulations**

The regulations mentioned below have been provided for assessment:

- General examination regulation (put into force)
- Admission regulation (put into force)
- Fee regulation (put into force)
- Organic laws (put into force)
- General regulations (put into force)
- General regulations on evaluations (put into force)
- Social service regulations (put into force)
- Graduation requirements (put into force)
- General regulations on discipline and good behavior (put into force)
- General regulations on scholarships (put into force)
- Regulations to recognize outstanding academic merits (put into force)
- Regulations for graduate studies (put into force)
- Academic staff regulations (put into force)

#### **Analysis of the peers:**

The peers found the documentation of the Bachelor's and Master's degree programs generally good and comprehensive. All relevant regulations are put in force and are available in print and online, and thereby easily accessible for consultation.

#### **Assessment of the peers:**

##### **For the award of the ASIIN seal**

##### *Criterion 7.1 Relevant regulations*

The regulations for the programs encompass all key stipulations for admissions, the operation of the program and graduation.

The relevant regulations have been subject to a legal check and are in force.

The regulations are accessible for consultation.

## **B-7-2 Diploma Supplement and qualification certificate**

Samples of the Diploma Supplement in English language are annexed to the self-assessment report. They provide information about the study aims and (generic) learning objectives, nature, level, context, content and status of the studies, the success of the graduate as well as about the composition of the final grade. In addition to the national grade, an ECTS grading table according to the ECTS Users' Guide is foreseen.

### **Analysis of the peers:**

The peers saw that a diploma supplement exists in English language and contains a transcript of records, which gives information about the detailed contents of the programs, the examination results of each module as well as the calculation of the final mark average. The diploma supplement also includes statistical data in accordance with the ECTS user Guide to assist in interpreting the individual degree. However, the diploma supplement including the transcript of record is obviously not issued regularly, but only on request against payment of a fee.

### **Assessment of the peers:**

#### **For the award of the ASIIN seal**

##### *Criterion 7.2 Diploma Supplement and qualification certificate*

The diploma supplement allows interested parties to gain insight into the structure, content and level of the successfully completed degree, as well as an individual's performance.

The diploma supplement indicates how the final mark was calculated (including weighting of marks) so that outsiders can clearly see how each component was incorporated into the final degree.

The diploma supplement supplies statistical data in accordance with the ECTS user guide to assist in interpreting the individual degree.

The peers deem it necessary that the HEI introduces the diploma supplement free of charge for all students without their request, providing detailed information on the individual achievements of the graduates to external stakeholders.

## **C Additional Information**

Before preparing their final recommendation, the auditors ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

none

## **D Comment of the HEI (17.07.2013)**

The institution provided the following statement:

„The world’s trends have driven Higher Education Institutions (HEI) to rearrange their academic activities, and to review the student’s profile, program education objectives and learning outcomes goals regarding their professional practices and academic levels, in search of improvement. The need for Universities, specifically for the Universidad Autónoma de Nuevo León (UANL), to provide to society high-quality professionals capable of performing adequately at the regional, national and international contexts, has made some academic programs to seek evaluations by international standards of their programs. In this view, the general strategy of the Faculty of Forest Sciences (FFS) of UANL is to ensure that the Bachelor and Master of Sciences Programs in Forest Sciences degrees are offered in accordance with the highest international standards in terms of quality and content.

With respect to the Bachelor program a special emphasis is given in knowledge of facts, principles, processes and concepts of forest management, forest operations, and natural resource conservation. In addition, students learn to appreciate the importance of different forest ecosystems and environmental services, to qualify human resources for scientific research integrating rational management strategies of forest resources, and due consideration of holistic assumptions, based on the principles of sustainability, balancing production/utilization and conservation of forest resources. Meanwhile, for the Master in Sciences degree program, students are expected to advance in knowledge in forest sciences, involving a critical understanding of theories and principles. Graduates are involved in both academic and research activities, which encompass national or international frameworks such as international forums, presenting and disseminating research through scientific publications, as well as to learn specific experimental techniques.

Professional developments for graduates of both programs (Bachelor and Master) are diverse. They include all aspects of natural resource management, including ranch management, 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, private timber and forest product companies, and regulatory agencies, graduates also find employment in agribusiness sales, consulting and reclamation. For master graduates besides the above mentioned, they can also be enrolled in Higher Education Institutions and Research Centers as lectures and

research or graduates can also pursue professional careers in doctoral studies in forest sciences and related fields. The following common objectives for both programs are denoted below:

- To transmit knowledge to its students along with the necessary skills for applying in the service of our society.
- Alumni should be able to balance the function of natural ecosystems and human requirements in an integral and sensitive manner.

The learning outcomes of the both programs are consistent with the institutional mission since they are founded with the same principles to form integral, competitive and responsible professionals with emphasis on the following:

- To advance to positions of increased responsibilities.
- To become consultants and members of forest professional and related professional societies.

Specific degree objectives, learning outcomes and course-work goals for each program are based in terms of knowledge, skills and competences, and these are fully described in the self-study report prepared and submitted to ASIIN agency.

In terms of quality assurance and further development, the FFS has established a continuous improvement by including a quality management control on the Forest Engineer and Master of Science in Forest Sciences Programs. Furthermore, the academic processes have been accredited by the firm TÜV-SÜD under the ISO-9001-2008 (Quality Management Systems) in order to assure the FFS's quality management which covers the entire range of academic processes offered to students through the effective application of the system, including processes for continuous improvement of the system. The integrated continuous improvement processes used by the FFS to assess and update program objectives and outcomes is through a series of feedbacks gained from Faculty, student, alumni and employer surveys as well as from course assignments and examinations. This feedback assures periodic evaluation and lead to continuous refinement of program objectives and curricular improvements to achieve the standards set for each academic program and student outcomes.

With this background and principles, the FFS aims to obtain full accreditation and recognition from outstanding and leading international organizations as applicable to the Bachelor and Master of Science programs. In this context, on May 15-16, 2013 an academic audit team headed by the German International Accreditation Agency, named ASSIN, has made an on-site visit audit to evaluate both academic programs based from a self-study

report in view to comply with international education standards. The team was comprised by international specialists from both, the academic and consulting Forest Science sectors. The audit team had the opportunity to exchange points of view and feedbacks with Representatives of UANL and FFS, program coordinators, Faculty members, Bachelor and Graduate students, personnel of FFS, and inspect samples of exams and final theses. Besides, the peers visited the different educational learning units and physical resources such as the library, teaching and computer rooms, laboratory, major technical equipment, and the Forest Experimental plot where undergraduate and graduate students and faculty members undertake practices, experimental field assignments and research.

To fulfill today's sharply competitive marketplace and evolving academic needs for current and further undergraduate and graduate students, the University and Faculty representatives strongly believe that both University's and FFS's profile and goodwill at regional, national and international level successfully qualify to meet international accreditation standards of currently in-progress academic programs (Bachelor and Master) from self-study and the on-site visit audit reports based on the following: University's modern and innovative academic systems, leading institution of higher education, academic achievements, student services, efforts for building a strong and distinguished faculty, conferred and accomplished national accreditations, availability of physical and financial resources for teaching, facilities and institutional support, learning and research purposes, knowledge enhancement and dissemination, skill and competences development, as well as international academic agreements to strengthen academic and research ties and cooperation for both, students and faculty members. The Faculty of Forest Sciences also maintains joint investigations with national and foreign universities and institutes.

Based on the self-study report prepared for both academic programs and handed to the ASIIN agency and reviewed by the audit team in advanced and verified during the on-site visit, the peers have made an extended and deep analysis and assessment of each requested criterion engaged to prepare the self-study report. In general, and conscious of the results, findings, comments and the best judgments and opinions provided by the audit team at all levels, the FFS agrees with the suggestions and reviews delivered during the review process and there is no doubt about the importance of a degree and a solid academic background to meet for international quality higher education standards. In addition, the recommendations suggested by the peers and the involved technical committee will be taken into account and implemented in the near future through continuous improvement systems of both programs. The authorities of UANL and FFS know that international accreditation involves an objective method of assessment through a third party, peer review of an institution's and program's structures, processes and outcomes in terms of strengths, weakening and opportunities for improvement. In order to provide a

social commitment and a measure of assurance of the quality, outcomes, and value of its programs to students, alumni and employers, our HEI seeks international accreditation of these programs by an official accrediting agency. Thus, it is our best hope that both programs of FFS seeking international accreditation standards meet the criteria and provide the quality of higher education that they expect and deserve in relation to standards of excellence.“

## E Final Assessment of the peers (16.08.2013)

The peers found the **additional information** provided by the institution to be meaningful. The peers recognized the overall willingness of the HEI to consider the peer's recommendations and to act on the requirements as described in the evaluation report.

Taking into account the comments given by the HEI the peers summarize their analysis and **final assessment** as follows:

*For the award of the ASIIN seal:*

The majority of the peers confirm their assessment regarding all criteria. However, one peer comes to the conclusion that the problem described in recommendation 4, namely the Bachelor's degree program of Forest Engineer lacking certain engineering skills, is not adequately dealt with by a mere recommendation. He therefore suggests changing the status to requirement.

The comments from the institution entail no further changes to the assessment of the peers.

The peers recommend the award of the seals as follows:

Degree Program	ASIIN-seal	Accredited until (maximum duration)	Seal of the Accreditation Council (AC)	Accredited until (maximum duration)
Ba Forest Engineer	With requirements	30.09.2018	With requirements	30.09.2018
Ma Forest Sciences	With requirements	30.09.2018	With requirements	30.09.2018

Requirements and recommendations for the different seals:

**Requirements**

**For all degree programs**

1. A Diploma Supplement has to be introduced free of charge for all students providing detailed information on the individual achievements of the graduates to external stakeholders.
2. The intended learning outcomes have to be published in such a legal form that the students may rely on them.

ASIIN
7.2
2.2

**Recommendations**

**For all study programs**

1. It is recommended to enhance and further develop the quality management and evaluation systems to obtain comprehensive and reliable data about the quality of the degree programs, especially the employability of the Ba program.
2. It is recommended that methods of reducing the drop-out rate, including more careful selection of students, should be an explicit component of continuous review and improvement.
3. It is recommended reducing the number of attempts for failed examinations.

ASIIN
6.2
4
4
2.6

**For the Bachelor's Program Forest Engineer**

4. It is recommended to further strengthen the wood working related engineering skill in order to improve the students' job opportunities in the industrial sector.

## **F Comments of the Technical Committee**

### **F-1 Technical Committee 08 - Agronomy, Nutritional Sciences and Landscape Architecture (05.09.2013)**

The Technical Committee agrees with the requirements and recommendations of the majority of the peers. The technical committee confines the applicability of recommendation 3 on the Bachelor's program of Forest Engineer only.

*For the award of the ASIIN seal:*

The technical committee proposes to the accreditation commission to reward the ASIIN seal in accordance with the majority of the peers. Recommendation 4 is not intensified to a requirement, recommendation 3 is applied to the Bachelor's program only.

The Technical Committee 08 – Agronomy, Nutritional Sciences and Landscape Architecture recommends the award of the seals as follows:

<b>Degree Program</b>	<b>ASIIN-seal</b>	<b>Accredited until (maximum duration)</b>	<b>Seal of the Accreditation Council (AC)</b>	<b>Accredited until (maximum duration)</b>
Ba Forest Engineer	With requirements	30.09.2018	With requirements	30.09.2018
Ma Forest Sciences	With requirements	30.09.2018	With requirements	30.09.2018

## **G Decision of the Accreditation Commission (27.09.2013)**

The accreditation commission discussed the accreditation. They thought that against an international background the Bachelor's degree programme should routinely be concluded

ed with a Bachelor’s thesis instead of alternative modes of examination. The accreditation commission therefore decided to add a requirement that the Bachelor’s degree program has to be concluded only with a Bachelor’s thesis.

The accreditation commission decided to remove the former recommendation 3 concerning the reducing of the number of attempts of failed examinations, because they thought it not relevant for any accreditation criterium.

Finally, the accreditation commission discussed if the Bachelor’s degree programme’s designation as “Forest Engineer” really is appropriate, because it seemed lacking in depths of engineering skills. However, lacking appropriate criteria for this case the accreditation commission followed the positive judgment of the peers and the technical committee in this respect.

The Accreditation Commission for Degree Programmes decides to award the following seals:

Degree Program	ASIIN-seal	Accredited until (maximum duration)	Seal of the Accreditation Council (AC)	Accredited until (maximum duration)
Ba Forest Engineer	With requirements	30.09.2018	With requirements	30.09.2018
Ma Forest Sciences	With requirements	30.09.2018	With requirements	30.09.2018

Requirements and recommendations for the seals:

**Requirements**

**For all degree programs**

- 1) A Diploma Supplement has to be introduced free of charge for all students providing detailed information on the individual achievements of the graduates to external stakeholders.
- 2) The intended learning outcomes have to be published in such a legal form that the students may rely on them.

**For the Bachelor degree program**

ASIIN
7.2
2.2

<p>3) The Bachelor program has to end with a final thesis or equivalent that guarantees that students can carry out an assigned task independently and at the level of the qualification sought.</p>	
<p><b>Recommendations</b></p>	<p><b>ASIIN</b></p>
<p><b>For all degree programs</b></p>	
<p>1) It is recommended to enhance and further develop the quality management and evaluation systems to obtain comprehensive and reliable data about the quality of the degree programs, especially the employability of the Ba program.</p>	<p>6.2</p>
<p>2) It is recommended that methods of reducing the drop-out rate, including more careful selection of students, should be an explicit component of continuous review and improvement.</p>	<p>4</p>
<p><b>For the Bachelor degree program</b></p>	
<p>3) It is recommended to further strengthen the wood working related engineering skill in order to improve the students' job opportunities in the industrial sector.</p>	<p>2.6</p>