ASIIN Seal

Accreditation Report

Bachelor's Degree Programme
Forestry Science Engineering

Provided by
Universidad Juárez del Estado de Durango, Durango, Mexico

Version: 09 December 2016

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Ingeniería en Ciencias Forestales	Forestry Sciences Engineering	ASIIN	Comité Mexicano de Acreditación de la Educación Agronómica 30.09.2013-29.09.2018	TC 08
Date of the contract: 22.05.2014 **Submission of the final version of the self-assessment report:** 01.12.2014 **Date of the onsite visit:** 10.-12.02.2015 **at:** Campus Durango				
Peer panel: Prof. Dr. Jürgen Braun, South Westphalia University of Applied Sciences; Prof. Dr. Marco Gonzalez, Universidad Autónoma de Nuevo León/ Georg-August-Universität Göttingen; Jonathan Jesús Marroquín Castillo, Master degree student, Universidad Autónoma de Nuevo León; Prof. Dr. Peter Spathelf, Eberswalde University for Sustainable Development; Dr. Timothy Synnott, Forest Stewardship Council				
Representative of the ASIIN headquarter: Dipl.-Kulturw. Jana Möhren				
Responsible decision-making committee: Accreditation Commission for Degree Pro-				

[1] ASIIN Seal for degree programmes
[2] TC: TC 08 – Agronomy, Nutritional Sciences and Landscape Architecture

grammes	
Criteria used: European Standards and Guidelines as of 10.05.2005 ASIIN General Criteria, as of 28.06.2012 Subject-Specific Criteria of Technical Committee 08 – Agronomy, Nutritional Sciences and Landscape Architecture as of 09.12.2011	

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 Degree Programme

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Forestry Sciences Engineering	Ingeniero en Ciencias Forestales Forestry Sciences Engineer	Forest Restoration Forest Management Forest Industries	Level 6	Full time	no	9 Semester	307 ACATS credits	Intake twice/year; since 08.03.2013 offered in current version

According to the self-assessment report and as stipulated on the faculty website, the following **curricular objectives** shall be achieved by the Bachelor degree programme:

- Identifying and characterizing the species of forestry interest and the plant communities, based on botanic, anatomic, physiologic, genetic principles and their eco-silvicultural interactions, to quantify forest resources.
- Knowing and applying the regulations that rule the forest activity at a local, state and national level, through the knowledge of laws and regulations that rule the management of forest resources, for generating a sustainable use.
- Applying the scientific, technical and cultural information, with a critical and constructive mind, through the use of present communication technologies, for an integral development of the students.
- Promoting the oral and written communication, investigation and team work capabilities, as well as the creativity and Independence, through the active participation of the students in cultural, scientific, sportive and social activities, for a better development and integration into society and in their professional performance.
- Developing timber and nontimber managing programmes, by means of the knowledge of forest resources stocks, and by proposing silvicultural alternatives according to the technical condition of the forest resource, in order to guarantee the sustainable use of forest resources.
- Identifying the impact degree of the degraded areas in forest ecosystems, by means of field trips, use of GIS, to propose conservation and restoration actions for the degraded systems.

[3] EQF = The European Qualifications Framework for lifelong learning

- Establishing the forest resource supply schemes, analysing the transformation processes of forest products, and identifying the merchandizing techniques through the knowledge of the production chains of the forest sector, to develop environmentally friendly industrial processes.

Additionally, the following **graduate profile** is specified with general and specific competences:

General competences

- To develop the capability of communicating in Spanish and in a second language, for her/his social interaction.
- To apply the critical and self-critical thinking for identifying, posing and solving problems by means of the abstraction, analysis and synthesis processes.
- To apply collaborative leadership to identify and develop ideas and/or projects in the professional and social field through the planning and decision making processes, assuring team work, motivation and common target goals.
- To act with respect towards cultural diversity, with social responsibility and citizen commitment to face and solve professional conflicts.
- To apply the suitable communication and information technologies as tools for solving the professional field and social problems which strengthen the development of learning, communicating, discipline training and investigation.

Specific competences

- Forest Restoration: Designs, performs and assesses plans and programmes for the conservation and restoration of forest ecosystems guaranteeing their sustainability.
- Forest management: implements timber and non-timber managing programmes, guaranteeing the sustainable use of forest resources attached to the regulations in force.
- Forest industries: Designs schemes for supplying, transformation and merchandising raw materials and forest products, in order to favour industrial processes without affecting the environment.

Intended learning outcomes are stipulated as follows:

Knowledge

- Trees and bushes constitutive structures and applying an efficient use of their parts for human benefit.
- Current and reliable methodologies for quantifying forest resources.

- Ecological links among beneficial and harmful organisms that make up the ecosystems.
- Complex ecosystem that provides environmental and economic benefits for society.
- Interaction between society and forest resources.
- Geographic Information Systems as tools of the current technology for supporting in decision making that carries a sustainable management of forest resources.
- Forest use techniques that carry a sustainable management of forest resource.
- Models for optimizing the transformation of raw material into forest products with a higher added value.

Skills

- Knowing and handling the constitutive structures of trees and bushes, and promoting an efficient use of their parts for human benefit.
- Designing present and reliable methodologies for quantifying forest resources.
- Identifying the ecological links among beneficial and harmful organisms that make up the ecosystem.
- Understanding the ecosystem as a complex that provides environmental and economic benefits for society.
- Perform investigation of forest aspects, using forest lands as laboratories.
- Promote the interaction between society and forest resources for proposing viable solutions for the benefit of both society and ecosystems.
- Applying GIS as present technology tools for supporting decision making that carries a sustainable management of forest resources.
- Designing and adapting forest use techniques that carry a sustainable management of forest resources.
- Implement techniques for modifying, innovating and applying modern technology for increasing the sustainable production of forest ecosystems.
- Developing diagnosis, planning and assessing the way forest activity affects social, economic political and cultural society needs.
- Managing models for optimizing the transformation of raw materials into finished forest products.

Attitudes

- Interest in preserving nature.
- Collaboration and participation in team works
- Interest in self learning and continuous learning.
- Open to criticism and with availability to accept them

- Proactive in decision making strengthening the forest sector.
- Availability for learning from errors.
- Availability for collaborating in the profession tasks.
- Being objective in the handling of information
- Participating in multidisciplinary scientific and technical teams aimed to the solution of forest sector problems.

Values

- Respect
- Honesty
- Responsibility
- Commitment
- Ethics
- Unity

The following **curriculum** is presented:

FIRST	SECOND	TIRTH	FOURTH	FIFTH	SIXTH	SEVENTH	EIGTH	NINETH
MATHEMATICS 5C	NUMÉRICAL ANALYSIS 5C	INTRODUCTORY SATISTICS 4C	FORESTRY EXPERIMENTATION 5C	SAMPLING AND FOREST RESOURCE INVENTORY 6C	SILVICULTURE OF TEMPERATE FORESTS 6C	FORMULATION AND EVALUATION OF PROJECTS 6C	RESEARCH SEMINAR II 4C	PROFESSIONAL RESIDENCE 15C
ORGANIC AND INORGÁNIC CHEMISTRY 5C	BIOCHEMISTRY 5C	TREE PHYSIOLOGY 6C	FOREST MEASUREMENT 5C	WATERSHED 6C	WOOD ANATOMY AND TECHNOLOGY 6C	FOREST INDUSTRIES 6C	ELECTIVE IV 5C	
PLANT BIOLOGY 5C	FOREST BOTANY 5C	FOREST NURSERIES 6C	FOREST SOCIOLOGY 3C	FOREST POLICY AND LEGISLATION 4C	FOREST ADMINISTRATION 4C	RESEARCH SEMINAR I 4C	ELECTIVE V 5C	
READING AND WRITING 6C	BIOGEOGRAPHY 5C	FOREST SOILS 6C	FOREST ENTOMOLOGY AND PATOLOGY 5C	RESTORATION AND CONSERVATION OF FOREST SOILS 6C	FOREST GENÉTICS 6C	ELECTIVE I 5C	ELECTIVE VI 5C	
COMPUTING 6C	FUNDAMENTAL OF PHYSICAL 5C	RESEARCH METODOLOGY 4C	DIGITAL CARTOGRAPHY 5C	GEOGRAPHIC INFORMATION SYSTEMS 6C	FOREST SUPPLY 6C	ELECTIVE II 5C	ELECTIVE VII 5C	
SKILLS OF CRITICAL AND CREATIVE THINKING 6C	ENVIROMENTAL EDUCATION 6C	FOREST ECOLOGY 6C	REFORESTATION 5C	NON TIMBER FOREST PRODUCTS 6C	SUSTAINABLE HANDLING FOREST RESOURCES 6C	ELECTIVE III 5C		
33	31	32	28	34	34	31	24	15

C Peer Report for the ASIIN Seal

1. The Degree Programme: Concept, content & implementation

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

Evidence:

- Programme web site: http://forestales.ujed.mx/en/_oferta_educativa_icf_perfil_egreso.php
- Learning units matrix
- Minutes of faculty council, graduates forum
- Analysis of graduates' and employers' surveys

Preliminary assessment and analysis of the peers:

The panel considered the programme objectives and intended learning outcomes as defined by the Faculty of Forestry Sciences, the entity within the university responsible for managing the programme under review. They considered them to be well developed in terms of reflecting the needs and expectations of the local and regional industry, in particular resource management and timber production industries. The panel learned that the faculty and its graduates are linked to forest management in the state of Durango to a high degree, distinguishing the situation from that in other states of Mexico due to the geographic location of the state. Consequently, graduates are actually very much involved in the management of natural resources which the panel considered to be well reflected in the graduate profile. The panel acknowledges that the focus of the programme had somewhat shifted from being more exclusively targeted towards employment in government agencies to including tasks in the fields of service provision for forest owners and private industry. At the same time, despite the clear regional linkage, the panel felt that the faculty demonstrated a clear interest in becoming more visible nationally and internationally. The panel encouraged them to proceed in this direction.

With regard to the intended learning outcomes, the panel largely confirmed the self-analysis against the generic part of the subject-specific criteria of the Technical Committee 08 – Agronomy, Nutritional Sciences and Landscape Architecture. Knowledge and Understanding of the principles of natural and social sciences, mathematics and the incorpo-

ration of knowledge of the latest findings in their fields are reflected by the anticipated knowledge in species and plants, their principles and structures as well as the related application of knowledge gained through scientific, technical and cultural information. The knowledge of essential legal regulations of forest activity at local, state and national level is also part of the intended learning outcomes. The competence for carrying out investigations is reflected in the intended capacity for carrying out literature and database searches, using information technologies and drawing relevant conclusions. Social competences are expected in terms of critical and self-critical thinking, communication capability, respect towards diversity and the need for social responsibility, professional ethics as well as team work and involvement in social activities. Furthermore, a number of expected attitudes and values have been defined as further detailed below. In terms of engineering analysis graduates are expected to be able to identify and formulate problems arising in their area, apply different analytical methods and experiments and draw conclusions. This is reflected in the intended ability to apply communication and information technologies as tools for solving problems as well as the ability to develop processes, methodologies and projects influencing the sustainable development in their field. Engineering design is understood as the development of descriptive and comparative approaches, the work on the basis of concepts and the development of strategies. These competences are expected as graduates shall be able to develop timber and non-timber managing programmes for the use of forest resources, to design and implement schemes for the conservation and restoration of forest ecosystems, raw materials and forest products. Engineering practice is to be gained through the practical application of the methods and tools in the practical placements (professional residence, see below, section 1.3) as well as the awareness and identification of the impact of forestry activities including the proposal for conservation and restoration actions, respect towards social diversity, social responsibility and professional ethics.

While the panel members generally commended the drafting of the programme and curricular objectives, the graduate profile and the intended learning outcomes on programme level, they questioned to what extend the units of attitudes and values would be valid in this context. Though lauding the content of the mentioned attitudes and values themselves, the panel was not convinced that these could actually be actively taught within the degree programme and much less measured and assessed. The teaching staff confirmed these doubts by explaining that their own behaviour as role models, for example by acting respectfully, honestly and responsibly, was intended to contribute to the instilment of values in the students. Similarly, the attitudes as defined, for example being open to criticism and learning from it, were considered to be hardly teachable. Nevertheless, the panel considered that values could be incorporated into other competences,

such as citizenship. It also remained unclear how their achievement could be consistently checked despite a number of proposed options such as asking students to write an essay about a specific topic (which would not actually enable the measurement of the adoption of a specific attitude or value) or the commendable method of co-evaluation whereby students assess each other's performance. Therefore, the panel concluded that the programme must find a way to define all intended learning outcomes at programme level in a way that they are measurable and assessable. At the same time, care should be taken that all intended learning outcomes at programme level are sufficiently reflected in the intended learning outcomes at module or course level, i.e. in the module descriptions.

In terms of involving stakeholders in the drafting and further developing of programme objectives, the panel positively noted that annual stakeholder meetings are organized involving representatives from the forest industry and governmental agencies constituting a majority of relevant external stakeholders.

Criterion 1.2 Name of the degree programme

Evidence:

- Regulation of the Faculty about Awarding of Degrees (*Reglamento de Titulación*) of June 2010
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

The panel discussed the name of the programme in relation to the intended objectives, curriculum as well as the degree awarded. In particular, they questioned to which extent the programme targeted both forestry science and forest engineering. They understood that the elements of engineering analysis, design and practice as mentioned above were not considered to be "classical" engineering in terms of a professional engineer but rather as the technical capacities needed in the profession. The programme at hand focused rather on the scientific aspects of the subject area and the panel would have considered the name "forestry science" to be better fitting. However, they learned that the term engineering was included as it is directly connected to the degree awarded, *ingeniero*, which has a higher level than the Bachelor degree (*licenciatura*) which had been awarded previously. Therefore, they understood that the objective of the programme was not to train classical engineers. However, the panel considered that the title of the programme might cause confusion because of the actual focus of the programme rather on forest science than forest engineering.

Criterion 1.3 Curriculum

Evidence:

- Curricular overview as published on the website: http://forestales.ujed.mx/es/_oferta_educativa_icf_mapa_curricular.php
- Module (learning unit) descriptions available on the same website
- Learning units matrix
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
Generally, the panel found the curriculum to be in line with the programme objectives and intended learning outcomes. The panel members acknowledged that the module (learning unit) descriptions clearly indicated to which of the overarching knowledge, skills, attitudes and values a unit should contribute. Additional objectives in terms of learning outcomes on module level are also included in the descriptions.

As mentioned above, the panel members questioned the role and extent of the three curricular lines forest restoration, forest management and forest industries since the allocation of modules to these lines was not fully comprehensible. During the discussions it became evident that the three lines were not intended to be fully developed areas of specialization but constituted rather an organisational measure for the alignment of modules. Nevertheless, the university confirmed that a relation between the curricular lines and the electives existed. In the context, the panel noted that the electives, starting only in the seventh semester, were late in the course of the programme and thus only offered a very limited possibility for students to develop an individual focus. The low number of electives available sustained this assessment. The peers noted that the university considered the curriculum to be flexible since students are allowed to complete modules in different institutions, nationally or internationally rather than by offering a specific specialization area. The structure of the curriculum with electives making up to 20 % of the modules was confirmed to follow a university-wide regulation. Overall, the panel concluded that it would be valuable to allow for greater flexibility by offering more electives, but at the same time would rather support a more clear setting of the three curricular lines with clearly linked modules so that students can develop an individual focus.

The panel also questions how socio-economic aspects, entrepreneurship and social forestry were included in the programme. They acknowledged that based on feedback from the above mentioned stakeholder meetings, the curriculum had recently been amended to strengthen aspects of social forestry while at the same time limiting the scope of economics included. Overall, the programme was understood to focus on practical aspects of

the forest industry. In the discussions with the teaching staff, the panel clarified how new topics from outside the forestry sector but influencing it, for example social forestry, governance aspects, political aspects were taken into account. The university convincingly demonstrated that input from the annual stakeholder meetings regularly led to updates of the curriculum such as those in the fields of silvicultural management methods or forest restoration.

In the opinion of the peers, the practical placement, the so-called professional residence, was well integrated into the curriculum in particular as it was typically connected to the development of the final thesis. Students normally would develop a thesis project under the supervision of a staff member and a company representative. However, as further detailed below (criterion 3), the panel noted that not all students had to write a final thesis in order to obtain their degree.

In terms of non-subject specific curricular components, the panel took particular note of the so-called integral training and social service. The former consists of modules from other subject areas such as art, humanities or cultural sciences as well as language courses which are intended to contribute to the personality and skills of students. In the social service module, students participate in social outreach activities with a relation to the degree programme, for example in the nursery, in forest plantations or governmental sustainability programmes. The panel considered these activities suitable for the achievement of the intended graduate profile while also allowing an insight into possible employment areas.

Criterion 1.4 Admission requirements

Evidence:

- Admission regulations: http://escolares.ujed.mx/publico/Informacion.aspx; http://www.ujed.mx/portal/Publico/Noticias.aspx?ipNoticia=2972
- Information about the expected profile of incoming students published on the website: http://forestales.ujed.mx/es/_oferta_educativa_icf_perfil_ingreso.php
- Data about applicants and admitted students for the past five years in the self-assessment report

Preliminary assessment and analysis of the peers:

The panel members discussed the entrance requirements with the university in view of the two different admission mechanisms for the fall and the spring semesters. They recognized that the typical admission was in the fall through the means of the so-called CENEVAL exam carried out nationwide. The university defined the minimum score to be acquired within this exam. In case students do not achieve the defined minimum score,

they can apply for a preparatory semester and subsequently enter the programme proper in the spring semester. Additionally, admission in the spring semester can be granted after having scored a set minimum in the faculty's own entrance exam in the areas of mathematics, biology and chemistry. The panel acknowledged that the admission criteria were generally transparent and that the process was ISO certified. The peers questioned, however, to which extent the faculty had any means of verifying the aptitude of the applicants for the programme as both the national test and the local entrance exam did not seem to be much targeted towards the programme content. They noted that the faculty was generally satisfied with the results of the mentioned exams. Furthermore, orientation for applicants was provided through the website which detailed the ideal applicant profile.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

The panel members appreciated the reflections of the institution about the measurability of all learning outcomes, in this case particularly those targeting values and attitudes, and the intention to introduce changes for their assessment. While again supporting the general approach of including values and attitudes in the teaching and learning process, the peers confirmed the necessity to ensure that all learning outcomes are measurable and assessable.

The peers noted that the faculty planned to change the name of the programme to *Forestry Engineer* instead of the current name *Engineer in Forestry Science*.

In this context, the peers acknowledged that the degrees of engineer and Bachelor (licenciado) are on the same level according to the Mexican Qualifications Framework. However, the degree *licenciado* is mainly used for qualifications in law, accounting and similar. Thus in order to avoid confusion nationally, the term "Ingeniero en C.F." has become practice for all university-level forestry graduates in Mexico which again lead to misunderstandings internationally.

Nevertheless, distinguishing between the degree awarded and the name of the programme, the planned change would, in the view of the panel, increase the described risk of confusion as the focus of the programme was considered to be rather on the science than on the engineering aspect. The panel thus underlined again the need to make transparent that graduates of the programme are not "engineers" in the usual English professional sense of the word, though they clearly acknowledged that the terminology might be understood differently in the Mexican context where similar programmes were similarly named. In this line of argumentation, the panel understood that the new name *For-*

estry Engineer aimed at making the distinction between people who work practically in the forest as opposed to those who are rather engaged in science. The panel also considered whether the existing name with a subtitle such as „with focus on science“ or „Forestry scientist with engineering” might be more easily aligned with international understanding. Overall, the panel considered further clarification of the programme name necessary.

The feedback from the institution confirmed the understanding of the panel that the three areas Forest Industry, Forest Management and Forest Restoration do not constitute specialization areas designed for individual student’s specialization but rather include competences to be acquired by all students. Elective units exist in the five curricular areas that constitute the programme but, as confirmed by the institution, to a low extent, and the panel thus appreciates the intention of the institution to review the curriculum in this regard. The flexibility with regard to the different learning sites and the option to follow modules at other institutes is lauded by the panel with regard to enable students to acquire competences outside of their field. With regard to allowing a stronger focus within the subject area itself, they would still consider this recommendable.

Concerning the admission process and criteria, the feedback from the institution confirmed the understanding of the panel that a general admission exam in the fields of biology, mathematics, written language and English takes place while the aptitude for the specific field of study played a lesser role. The institution seemed, however, satisfied with the capacities of entry level students which they found confirmed by the low number of dropouts.

With the exception of the above mentioned points, the panel found criterion 1 to be fulfilled.

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Module (learning unit) descriptions available on the website
- Learning units matrix
- Discussions during onsite visit

- Recognition of achievements: “Reglamento de Revalidacion de Estudios y Reconocimiento de Grados y Titulos”: http://forestales.ujed.mx/es/_acerca_facultad_normatividad.php

Preliminary assessment and analysis of the peers:
The panel acknowledged that the curriculum is divided into modules, called learning units, allowing students to complete the degree in a stringent manner. The modules themselves were considered to be suitable units of teaching and learning at the level aimed for. The panel members also noted that additional curricular elements, in particular social service, integral training and the residential placement (see above, section 1.3) are duly credited and integrated into the curriculum. The peers were satisfied that overlaps among the modules in terms of content were avoided. This was ensured both as an element of the national accreditation requirements but also through the direct consultation among staff members. Overall, the structure of the modules and the curriculum as a whole was found to be adequate. As to the recognition of externally acquired achievements, the panel noted that university-wide regulations specify regulations in a way to render transition between higher education institutions easily possible, though it was noted that corresponding requests are very rarely received. The discussions confirmed that the recognition of credits obtained at international institutions was implemented without problems. With regard to international mobility, while this is principally possible within the programme structure, the number of outgoing students is currently relatively low but is expected to increase after successful international accreditation. The panel positively acknowledged that the university also made available budget for international visiting professors in order to allow international experience also for those students who cannot participate in mobilities themselves.

Criterion 2.2 Work load and credits

Evidence:

- Module (learning unit) descriptions available on the website
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
The panel discussed the credit point system in use and its comparison to the European credit system ECTS. While the so called Academic Credits Allocation and Transference System (ACATS) is principally also based on student workload, it only takes into account the “Independent Self Study Hours” which are completed as part of the curricular requirements. I.e. students have to complete a task set by a teaching staff member, such as a survey or library research. The panel indicated that the full student work load as foreseen by the ECTS system, including independent self-study, exam preparation etc., is not

quantified in the ACATS system. In order to increase transparency and facilitate exchange with higher education institutions in the European Higher Education Area, the peers asked for a comparative calculation of the student workload on an ECTS basis. While they had the impression that the workload for students was set at an adequate level, such a comparative analysis would enable them to better assess the structural setting. The panel noted positively that the drop-out rates are very low at 10% and that, according to the information provided orally, about 45% of students completed the programme in the foreseen time period.

Furthermore, the panel noted that credit points were awarded not only for the taught modules, internships and the social service but that students could upon request also receive credits for activities such as participating in a congress or forum or meeting with an advisor. The contribution of the latter to the achievement of the intended learning outcomes was not clear and the panel also suggested that the acquirement of additional knowledge or skills through attendance of congresses, for example, might be assessed at least by means of a report produced by the student. The award of credit points – independent of the system in use – could thus be better aligned with the contribution towards the programme objectives.

Criterion 2.3 Teaching methodology

Evidence:

- Self-assessment report and discussions during onsite visit
- Module (learning unit) descriptions available on the website

Preliminary assessment and analysis of the peers:

The panel considered the teaching methods in use to be fully adequate. In particular, they made positive note of the practical elements and projects incorporated into some of the modules. Three mandatory field trips to the faculty's research sites as well as the above mentioned practical residence were suited to incorporate practical elements. Additionally, the panel noted that the research capabilities of students were fostered through three specifically designated modules requiring students to develop a project proposal in view of their thesis, integrate and initiate the research project and carry out field studies until completing the thesis itself in the last semester. The panel lauded that the students are closely tutored throughout their studies. The panel gained the impression that teaching staff are ready to involve students in their research activities and make use of the available research facilities.

Criterion 2.4 Support and assistance

Evidence:

- Self-assessment report
- Discussion during the onsite visit

Preliminary assessment and analysis of the peers:

During the discussion with students and teaching staff, the panel gained the impression that the support and assistance provided to students was overall viewed in a very positive manner. In particular, the panel found both students and staff to be very engaged and motivated. While the panel learned from the meeting with students that problems might occur when staff members – particularly those who were very active in research – had to cancel or postpone classes, the panel members satisfied themselves that the teaching staff was well aware of the issues and provided adequate solutions, for example tasking the students with small independent research activities or replacement by other staff members.

Students also confirmed that support was provided for participating in national or international exchange activities. While the number of involved students was still rather low, the availability of support, including financial, was appreciated. Similarly, the panel acknowledged that students were generally encouraged to become involved in national or international student associations in their field once they had sought and provided information about existing ones.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:

The panel understood that a conversion rate of 1,7 was used to transform the local SATCA credits into ECTS and appreciated the annex providing the equivalence of ECTS for each module. In order to facilitate transferability and recognition of acquired credits at institutions within the European Higher Education Area, they would strongly advise operating with full credit numbers only instead of using of two decimals even though this would not allow for a strict mathematical conversion. Furthermore, the panel questioned whether the conversion of the credits overall was in line with the ECTS requirements. According to the university, students have to complete a total of 6832 hours which was set at 180,5 or 181 ECTS leading to approx. 37h per ECTS. In case of the module “Professional Residence” as well as other modules set at 10 or 15 ACATS, the conversion used led to approx. 81h/ECTS indicating that a different rate had been used for these modules. However, one ECTS according to the Users’ Guidelines corresponds to 25-30h of student workload. The panel thus advised a re-calculation indicating that the use of a clear conversion rate was

key to making the information transparent and comparable. Nevertheless, the panel again stressed that the workload itself did not seem to cause any problems in the programme.

While the university did not comment on the statement, the panel re-iterated their concern that credits could also be awarded for activities such as conference participation for which the achievement of relevant learning outcomes was not clearly checked. The panel thus recommended that the institution takes care to ensure that credits are only awarded when learning outcomes are achieved at the desired level.

Overall, the panel considered criterion 2 to be fulfilled.

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Module (learning unit) descriptions available on the website
- General Exams Regulations
- Regulation on professional thesis, Professional Residence regulation, Degree Regulation, Professional Examination Regulation, Complementary regulation for field practices; all regulations available on website: http://forestales.ujed.mx/es/_acerca_facultad_normatividad.php
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

The exam system and exam methodology was discussed in detail with the university representatives. The panel members noted that the modules made use of a so-called formative exam system which consisted of continuous evaluations during the semester. When students achieved a minimum score of 8.5 (out of 10) and had participated in at least 80 % of classes, they would be exempt from the final exam. The types of these continuous evaluations are decided by each teaching staff member individually and typically included different forms such as tests, projects, reports, homework etc. Additionally, two or three exams can be set per semester. The panel members understood the reasoning of staff to set up continuous tests in order to ensure the continuous learning of the students. However, as all the tests would count towards the final grade, this put a significant strain on students as some form of test would take place about every four weeks. The panel members were not convinced that the related pressure to students was adequately taken into

account. Continuous evaluations and tests would also limit the time available for students for independent learning. While staff members mentioned that there would not be any overlaps between the different tests in all the modules and no peak times would occur, the panel members learned that there was no specific arrangement among staff to avoid them. The panel considered this system to be too vague given the implications. They pointed out the possible negative effects of frequent exams with regard to students' ability to study and learn at their own pace and out of their own motivation rather than the need of having to pass exams. The panel thus questioned whether a less pressured approach but rather encouragement and enticing enthusiasm might not lead to longer-term positive effects. Furthermore, while staff members informed the students about the number and scheduling of tests for the upcoming semester per module, this did not become evident from the module descriptions available to the panel and thus left a level of uncertainty. The panel also took note of good practice in exams, for example a project organized jointly for three modules during which students had to demonstrate their capacity to think across subjects and to present in front of groups as a joint exam. However, the type of tests as well as of the exams were also not convincingly linked to the intended learning outcomes, not least because students could be exempt from exams and modules could be passed on attendance base. In those cases, it was not clear how the staff members would assure that the intended learning outcomes had been acquired. Alternatively, if this achievement would already become evident from the formative evaluations, the exams at the end would become superfluous. Furthermore, the panel noted that most of the exams and tests were written and included multiple-choice and fill-in-the-gaps types for which the panel was not convinced that they were suitable to assess whether competences at this level were acquired.

In the opinion of the panel it did not become evident how the programme ensures that all students work on a set task independently and at the level aimed for as the final thesis was not mandatory. The panel understood that the final degree could also be awarded when a project report about the professional residence – which did not have to fulfil the same research-related related standards as the thesis – was submitted or continuously high grades were obtained throughout the programme. In this context, the panel also pointed out that a mandatory final thesis was considered good practice internationally.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:

The panel took note of the additional information provided regarding the different types of student evaluation and assessments used for both formative and summative exams. While they positively noted that the institution tried to make use of different methods, it

did not become clear that the methods used were defined in the written documentation, thus clearly accessible to the stakeholders, nor how they were explicitly linked to the intended learning outcomes. With regard to the latter aspect, the panel appreciated the announcement that a greater emphasis was to be put on it. Furthermore, the peers also noted that the institution realized that the strain due to the assessment methodology could cause peaks of student workload but the information about the planning was not further explained as had already been done during the visit. The feedback of the university also confirmed the understanding of the panel that credits were not awarded on the basis of mere attendance but that students could be exempt from the final exam under certain conditions. However, taking the verification of the achievement of intended learning outcomes as one of the key purposes of exams, the methodology in use was not convincingly related to this purpose. The panel therefore considered it necessary that amendments to the exam methods and organisation in light of the above mentioned aspects were implemented.

With regard to the question of a final thesis or equivalent, the peers acknowledged positively that an, albeit slight, majority of students chose this form of completing their degree programme. Furthermore, the institution stated that quality criteria were in place for the other forms such as monographs, chrestomathies, master studies, Benito Juárez medal of merit, EGEL exam, and titration seminar were also in place. However, in addition to not having further information about a number of these mechanisms, the panel was not convinced that these were suitable to check the achievement of the same type and level of competences of a final thesis, i.e. the ability to work independently on a set task at Bachelor graduation level. The panel therefore considered it necessary that this is ensured for *all* students.

With regard to the mentioned aspects, the panel did not yet consider criterion 3 to be completely fulfilled.

4. Resources

Criterion 4.1 Staff

Evidence:

- CVs of staff members
- Information about research projects
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
The teaching staff members were found to be highly motivated and engaged in the implementation of the degree programme. The panel particularly noted that staff members had close relations to the relevant industry and endeavoured to bring their experience into the programme. In this regard, the peers agreed with the university that the share of part time teaching staff in the faculty was an opportunity for making use of such external input as most of the part time teachers were involved in companies. The panel found the information convincing that part time staff members typically receive a one year contract at first – allowing staff and faculty to assess the suitability – which would then be supplemented by long-term contracts in order to ensure consistency. At the same time, in view of a desired consistency in teaching as well as to establishing and further increasing the research activities at the faculty, a high number of permanent and full time staff would be desirable. The number of staff members who are members of the national system of research (SNI), a peer-reviewed system providing the status of national researcher and access to related funding by the National Council of Science and Technology (CONACYT), is therefore still low as a full contract is an entrance requirement. Nevertheless, the panel acknowledged that the number of research activities overall, also in collaboration with the own research institute "Institute of Forestry and Wood Industry (ISIMA)", was adequate to deliver the programme at hand and involve students in a sufficient manner.

Criterion 4.2 Staff development

Evidence:

- Self-assessment report
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:
In line with the above, the peers gained the impression that development opportunities for staff members were available. With regard to didactic skills, the staff members confirmed that both mandatory and voluntary educational offers were available within the university. In terms of subject-relevant knowledge, the university put an emphasis on SNI membership which was assumed to be pursued out of teaching staff members' own motivation, not least because additional financial resources are connected to it. However, the panel noted that SNI membership requires, for example, publication in journals with international referencing whereas the peers would also consider local and smaller scale research beneficial to the staff members and to the region. Such research could be supported through publication series or journals on local or faculty level. The panel positively acknowledged that staff members receive teaching load reductions for research or administrative activities. At the same time, the university might find other ways to encour-

age staff members to pursue research rather than relying on their own motivation to become SNI members.

Criterion 4.3 Funds and equipment

Evidence:

- Photographic reports of facilities
- Information about infrastructure on website: http://forestales.ujed.mx/es/_acerca_infraestructura_galeria.php
- Tour during onsite visit

Preliminary assessment and analysis of the peers:
During the onsite visit the panel visited a number of teaching laboratories, the nursery, the faculty library as well as other facilities. Overall, the panel considered the infrastructure to be suitable for teaching the programme at hand. They lauded that a number of laboratories, such as biochemistry, were recently renewed or in the process of being renovated with new equipment. However, the resources available for the GIS-related modules would profit from an update in terms of the space and equipment available. While the panel understood that GIS-related software was available in different computer rooms, ongoing discussions about the status of GIS as elective or mandatory subject would make an investment in this area worthwhile.

The panel also positively noted that the programme, and the faculty running it, had a good standing within the university despite being small in terms of staff and student numbers. They understood this to be related to the importance of forests per se in the state of Durango. While the vast majority of the university budget is provided from the state, income also depends on study fees as well as on additional resources obtained by the faculty from the National Forestry Commission (CONAFOR) and other governmental agencies. Consequently, the financial resources for the programme were considered to be sustainable.

Cooperation agreements were found to be in place particularly with local and regional companies, government entities, civil associations and higher education institutions in order to facilitate the implementation of the mandatory professional residency as well as national and international mobility. While it was generally an obligation of the students to find their own place, the faculty largely supported them by providing lists and contacts of suitable entities.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:

The panel positively took note of the information provided by the institution regarding the importance put on staff development and hiring criteria. This confirmed the impression gained during the onsite visit. Indeed, the affirmation that the university encouraged PIFI (i.e. federally funded) projects and SNI membership, re-emphasized the impression of the peers that the university much relied on federal level research support. It did not become fully clear how the university *actively* supported this apart from the hiring requirements. Furthermore, the panel valued the information about the agreements with several national organisations to facilitate the publication of research results on national level. As mentioned, the panel considered that this level of activity could well be complemented by more local publication opportunities.

With regard to the equipment for GIS-related courses, the panel positively noted that a new laboratory and extensions are planned. This would be a right step in the direction the panel envisaged for this subject.

Overall, the panel considered criterion 4 to be fulfilled.

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- The module descriptions are available on the website in Spanish and in English language: http://forestales.ujed.mx/es/_oferta_educativa_icf_mapa_curricular.php

Preliminary assessment and analysis of the peers:

The module descriptions were found to provide concise and complete information about the different modules (learning units) with regard to the intended learning outcomes, content, course organisation, examination and responsibilities. In particular, the panel members acknowledged that the module (learning unit) descriptions clearly indicated to which of the overarching knowledge, skills, attitudes and values a unit should contribute. Additional objectives in terms of learning outcomes on module level are also included in the descriptions. The panel members nevertheless noted that in some cases the literature indicated as source of information was rather outdated. They understood that the staff members generally updated the descriptions on a regular basis in order to ensure their suitability but that classical books were considered as a valuable element of the teaching approach in specific cases.

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Sample of degree certificate
- Sample of professional examination act
- Sample of student academic record (*kardex*)

Preliminary assessment and analysis of the peers:

The panel members took note of the documentation provided and noted that a Diploma Supplement is part of the tools developed in the frame of the Bologna process in the European Higher Education Area or a comparable document is not currently issued by the university. As the Diploma Supplement provides information facilitating student and graduate mobility (specifically about the student's qualifications profile, individual performance, classification of the degree programme within the educational system, grading system and statistical data on the final grade), the panel would consider such a document useful in view of the intended increase in internationalization and comparability with programmes in the European Higher Education Area. Therefore, they asked the university to provide a comparable document while stressing that this could be issued by the university or faculty on their own account without the need for formal approval by the relevant Ministry.

Criterion 5.3 Relevant rules

Evidence:

- Rules and regulations published on website: http://forestales.ujed.mx/es/_acerca_facultad_normatividad.php

Preliminary assessment and analysis of the peers:

The panel members positively acknowledged that all rules and regulations defining the rights and duties of university and students and governing the student life within the programme and the institution are publicly available on the website.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:

The feedback from the university confirmed the understanding of the peers that module descriptions are regularly updated which they also considered to be good practice.

With regard to the Diploma Supplement model provided, the panel considered this to be generally very informative. In light of the above remarks regarding full credit points, they would strongly advise their use for the Diploma Supplement as well. Furthermore, two

additional aspects would also enhance the current model: firstly, the provision of statistical data about the final grades of the graduating cohort so that the individual's qualification can be better appraised. Furthermore, information about the educational system of the country (e.g. a chart of national higher education structure) as a whole should be annexed to further facilitate the understanding of the qualification as a whole.

Overall, the panel considered criterion 5 to be fulfilled.

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Quality and teaching model available on the university website: http://planeacion.ujed.mx/Publico/PE_ModeloEducativo.aspx
- Regulations for internal Planning and Institutional Evaluation: http://forestales.ujed.mx/es/pdf/Reglamento%20de%20Planeacion%20y%20Evaluacion%20Interna.pdf
- Self-assessment report including data about student numbers, student progress
- Analysis of graduates survey
- Discussions during onsite visit

Preliminary assessment and analysis of the peers:

The panel found quality assurance mechanisms in place which clearly targeted the improvement of the programme. In addition to regular student surveys at the end of each semester, graduates are surveyed and their feedback taken into account. Furthermore, the annual meetings with representatives of industry stakeholders were also confirmed to provide input for updates of the programme. The peers found evidence of an explicit interest in all involved stakeholders in improving the quality of the programme and their satisfaction with changes made. It did not become clear, however, to what extent the input from graduates and employers was systematically gathered. For example, the panel understood that only about half of the graduates were followed up and that the annual meetings were rather informal. The data base and defined indicators of quality might thus be improved in order to provide a more accurate ground for decision making.

The processes of a number of the services offered by the faculty, such as the tutoring, social services and controlling, are ISO certified. The peers welcomed that the results

from the surveys were fed back to the staff members and followed up by regular discussions at the academic meetings. They also lauded that staff confirmed that they discuss results with students in order to allow them to become aware of improvements and changes. However, the panel also understood that the results of students' feedback had an influence on the salary of staff members. They considered such a direct consequence to be undesirable as staff members might be stimulated to seek positive student feedback rather than strive towards other quality objectives (e.g. research) as students' satisfaction constitutes only one indicator of quality.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

The panel appreciated the additional information about the annual employer and graduate forums as well as the efforts undertaken to extend the graduate follow-up, e.g. by improving the database. While the panel noted that the forums themselves are rather formal, the process for following up and implementing the results was still not completely clear to the peers. The panel considered that it might be useful for the faculty to further examine methods used for critical consultations with stakeholders in order to get the best results, for example by using more focused questions such as: Which subjects are inadequately taught? What elements need strengthening? What elements seem to be unnecessary? What are the main strengths and weaknesses of graduates, in terms of what is needed by individual employers? Nevertheless, the peers appreciated that a number of ISO certified actions were already in place to close quality feedback loops.

The panel furthermore appreciated the clarification that the results of students' surveys were only used to determine possible need for further development but that the salaries were defined completely independent of these results.

Overall, the panel found criterion 6 to be fulfilled.

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 Higher Education Institution on the previous chapters of this report:

D1. An English language Diploma Supplement: providing information about the objectives, intended learning outcomes, structure and level of the degree programme, an individual's performance, national educational system

D2. For every module and the programme as a whole: information about the corresponding ECTS credits

E Comment of the Higher Education Institution (17.04.2015)

The following quotes the comment of the institution:

CRITERIA	REPLY
Criterion 1.1 Objectives and learning outcomes of the degree programme (Intended qualifications profile)	Having analyzed the attitudes and values that are to be enforced, and taking into account the suggestions made by the panel, we have determined that changes need to be done. As it actually is, attitudes and values cannot be assessed nor measured tangibly. Nevertheless, they have to be incorporated in each of the learning units, according to what is established in the SP, so they are considered and stated in all and every learning units, with the aim of developing and strengthening them. At this moment, Academies are discussing the way for standardizing the formative evaluation of these attitudes and values and which has to be solved by the beginning of the next semester, and at the same time the administration is providing updating and training for professors focused on this matter. We are aware that it is not possible to grant a passing or failing grade, but we consider necessary for the students to know that these attitudes and values are important in their training and for their professional performance. By integrating the attitudes and values in each of the learning units the study plan makes sure they are implemented.
Criterion 1.2 Name of the degree programme	The name of the degree is *Engineer in Forestry Sciences*, which has been kept as an institutional identity with the Forestry Sciences Faculty, and its last update was approved by the Directive Board on March 18th, 2013. However, based on the panel suggestions, and to avoid confusion, we consider relevant to present a proposal to the mentioned Board with the objective of modifying the name to *Forestry Engineer*, since it is mainly the focus of the programme. This proposal is to be done in February, 2016. Regarding the degree obtained when graduating from the programme, it is aligned to the Mexican Qualification Framework, where it is established that

	higher education studies correspond to a bachelor's degree and equivalents, and engineering careers are also considered at the same level, because of the number of credits and the time it takes to cover the whole programme. Therefore, an Engineering degree is equal to a Bachelor's degree and not higher.
Criterion 1.3 Curriculum	The study plan curricular design based on competences, obeys the educational model and institutional policies, which at the same time are ruled by the national educative policy (established by SEP). Therefore, some elements of the SP are standardized, such as: the credit system, social service, titration choices, and integral training, among others. It is important to make clear that in the FSESP, the three lines that the panel mentions in the report are not curricular lines or specialization areas for the students to focus on a specific scope. They are stated as competences: Forest Industry, Forest Management and Forest Restoration, and they are set in the Forestry Sciences Engineering Study Plan in pages 46-51. There are indeed five curricular lines that contribute to the development of the three mentioned competences: a) Forest resources management b) Forest resources restoration c) Chemical-biological and Physical-mathematics Sciences d) Processing and merchandizing of forest products and e) Communication and research (Pages 55-56) Each of them is integrated in the mandatory and elective learning units. These three professional competences are established to train engineers with a multidisciplinary scope, and according to the needs of the labour market. However, based on their personal interests, the students can choose from the elective learning units in order to strengthen the areas they prefer. The learning units aimed to applying knowledge and researching (Professional Residence, Research Seminar) and the supervised activities (Social Service) stated in the SP are also a choice made by the students in order for their training to be focused on their interests. We are aware that the number of elective learning units can be increased, and, as it is established in the SP, a review of it is going to be done in 2016, so based on an analysis, and the number of elective learning units could be modified.

	The programme flexibility is set in terms of: • Space • Content and • Time **Space**: The students can develop learning activities (where the professional residency is included) at the Faculty, ISIMA, productive fields, research institutes, enterprises, government agencies, other national or international educative institutions, etc. **Content**: When taking a course in an institution different from the Faculty, the credits awarded by it are transferred to the student's Kardex. This allows and supports mobility. On the other hand, the activities related to integral training allow the student to choose sportive, cultural, artistic and intellectual activities which are possible to be done in different places, times and spaces and that are also awarded with credits. **Time**: The SP allows advancing learning units in between semesters, aiming to graduate in a shorter time. The online learning units can be taken in a free schedule that adjusts the students' needs. Regarding the titration choices, the national accreditation organisms (COMEAA, CIEES), as well as ANUIES, foresee a diversity of choices in order to increase the finishing and titration indexes. The University establishes for all its Study Programmes different educative mechanisms for obtaining the degree such as: thesis, monographs, chrestomathies, master studies, Benito Juárez medal of merit, EGEL exam, and titration seminar. (http://forestales.ujed.mx/es/pdf/1%20REGLAMENTO%20INTERNO%20DE%20LA%20FCF.pdf) pages 43-45 (http://forestales.ujed.mx/es/pdf/8%20REGLAMENTO%20DE%20TITULACION.pdf) pages 17-19 Every choice has as a requirement, to develop a final document (Recepcional Experience) with the structure established in the Titration Regulation. Besides the present a degree exam, before an evaluating Jury.

<table>
<tr><td></td><td>According to statistics of the last six years, 51% of students gotten their degree with thesis. The 49% is divided among the other choices.

<table>
<tr><th>CHOICE</th><th>GRADUATES</th><th>PERCENTAGE</th></tr>
<tr><td>Thesis</td><td>57</td><td>51</td></tr>
<tr><td>Tesina</td><td>2</td><td>2</td></tr>
<tr><td>Internship Memoirs</td><td>7</td><td>6</td></tr>
<tr><td>Benito Juárez Merit Medal</td><td>6</td><td>5</td></tr>
<tr><td>Masters degree</td><td>8</td><td>7</td></tr>
<tr><td>Titration course</td><td>23</td><td>21</td></tr>
<tr><td>Chrestomathy</td><td>9</td><td>8</td></tr>
<tr><td>TOTAL</td><td>112</td><td>100</td></tr>
</table></td></tr>
<tr><td>Criterion 1.4. Admission requirements</td><td>In the first instance, the students choose the career they want to study.

These days, the university general policy for the admission to the Faculty is that applicants have to take an exam (CENEVAL) which corresponds to the agricultural sciences module, it is a diagnostic exam in topics about biology, mathematics, written language and English. They also have to take a global exam about mathematical thinking, analytical thinking, and communication competences of Spanish: language structure, and communicative competences of Spanish: Reading comprehension. Appendix 3.

This leads to select the highest grades, from where we get the thirty best results, which historically represent the 50% of the career demand.

We agree that knowledge is evaluated but not vocation. For doing so, an instrument is to be designed which will allow Improving the admission process and that is to be applied next semester.

On the other hand, let’s just remember that dropout in the Faculty is only the 10%, and it is mostly due to socio-economical problems and not because of vocation.</td></tr>
<tr><td>Criterion 2.2 Work load and credits</td><td>The total time for attendance in theoretical and practical classes is 3952. The total amount of time for students’ personal work including exams and their preparation is 2400 hours. The time devoted to the development of the final work for obtaining the degree is 480 hours. Therefore, a student must complete 307 SATCA credits or 181 ECTS credits. 186 credits of theoretical and practical studies (109 ECTS), 111 credits correspond to various kinds of activities including the preparation of exams</td></tr>
</table>

	(65 ECTS) and 10 credits for the final work and receptional experience (6 ECTS). The conversion factor for the allocation and transference of credits is 1.7, so, 307 ACATS credits are equivalent to 180.5 ECTS
Criterion 3 Exams: system, concept and organization	With the aim of better clarifying the procedures followed in the modules for evaluating learning, in the planning times for integrating evaluations are established, they are not always written test or exams, because the diverse activities developed for allocate a partial grade are evaluated and they make up the **summative** phase (Conceptual, Procedural and Attitudinal). These activities can be, among others, essays, projects, reports, models, protocol development, etc. Indeed, since these partial evaluations, that sometimes can include written test, are planned by each teacher, sometimes students have to serve various processes on the same day, which may put some strain on them. Nevertheless, we make clear that this situation is being attended through the academies and teachers' team works, by means of planning the modules or learning units in order to avoid overlaps and for the student to devote more time for independent learning. In this sense, it is convenient to make clear that formative evaluation is an intrinsic aspect of the summative evaluation for strengthening the practice of the diverse stated values. On the other hand, a new strategy is being applied for standardizing the evaluation instruments for responding the competences that are intended to be developed in each module and in the intended outcomes or in the professional competence. These instruments are of different kinds but they are approved by the teachers collegially, and are to be part of work planning and of the expected products, thus favoring the work of the student and his previous knowledge about the kind of partial evaluations that he is to attend. We have to make clear, that the attendance of students to each module is an element that is taken into account because of regulations reasons that influence their rights and duties; however, no student approves the module just by attending it, for he has to demonstrate the competence through the summative evaluations which allow him to make evident his academic performance and also that he has applied the stated values in the daily work, proving like this that he has gotten the competences defined in each module. The Independent study hours are considered as the activities that the students perform individually or in a team and that can be developed inside or

	outside the Faculty and they are also stated in the learning units. The students are responsible of performing them and therefore, they are also evaluated through different ways of presentations (reports, discussions, analysis, concept maps, etc.). By these means values like identity, responsibility, honesty, ethics, solidarity, respect, commitment, etc. as well as attitudes can be integrated in and in that way the study programme ensures that all students work on them. We understand that it is desirable that all students develop a thesis as a final work for obtaining the degree, mostly because of the scientific focus and the demand which has the purpose of integrating the developed competences, particularly the one of research. None the less, it is also necessary to consider the regulation guidelines which establish other choices for the final work for the receptional experience and getting the degree, among which the residence report is found. All of them have to be developed under quality criteria, as it was seen during the on site visit. It is also convenient to make clear that despite the diverse choices that are in the regulation, the students re fostered to develop a thesis. Statistical data of the last 6 years show that a 51% of the students get their degree by this choice.
Criterion 4.2 Staff development	The FSF is aware of the necessity integrally attend the teaching staff, because of this, in the Academic Development Plan and in the Teacher Training and Replacement Programme the regular PTC hiring process is set with a desirable profile and that preferably belong to the SNI. This strengthens the pedagogical, managing, advisory and research aspects. In these documents teaching staff training and replacement for the years 2016 and 2022 are projected, considering age, seniority and retiring right. The hiring of new PTC is vital, for what is established in PIFI 2012: hiring 4 PTC by 2016 and 6 by 2022. Through agreements established with SEMARNAT, CONAFOR and CONACyT, as well as the development of projects performed with consortiums with other universities have increased the opportunity for publishing articles that have a national impact. Regarding research, besides of the choices that already exist, there is financial support that comes from PIFI and other sources. One of the strategies that the university has performed is that, in order to be hired, teachers have to fulfill certain requirements related to research and becoming part of the

	SNI. Table 01 (Appendix 4) shows the full time teachers who can be incorporated to the SNI in a medium term, independently from the foreseen recruitments.
Criterion 4.3 Funds and equipment	The GIS laboratory counts with enough equipment for satisfying learning and for applying digital and printed cartography, geographic information systems. Recently, a drone, satellite images, several software were acquired and a new area for the laboratory is being designed and arranges are being done for an extension for adding more equipment and furniture. The former will allow the development of projects that need the use of geomatics technics and for providing external professional services.
Criterion 5.1 Module descriptions	The learning units are revised in the Academies where the teachers are asked to update the literature, and to make sure that this literature is available at the university, the Faculty or online. In case that the literature is not updated, the learning units are not authorized. By the end of this semester, all the learning units must have updated literature. It is also important to mention, that some books are considered classical and it is necessary to keep them.
Criterion 5.2 Diploma and Diploma Supplement	We agree that the diploma requires more information and it needs to be applied at the university. For this, there was an interview with the School Services Director of UJED, and a proposal for a new Diploma Supplement was posed. This diploma fulfills the requirements and has the information that is asked. The authorization of this diploma depends on the Directive Board decision, since it is for the whole university.
Criterion 6 Quality management: quality assessment and development	The meetings with graduates and employers are held during the forums that annually take place during the Forestry Engineering Week; they are formal and systematical, and most stakeholders participate and there is where information is gathered. The Forestry Sciences Faculty Graduates National Association collaborates in the organization of them. The strategy for improving the follow up of the graduates includes actions such as: widen the data base through internal mechanisms at the time of graduating, improve the services provided for them and, to make the job board more efficient by means of incorporating more employers. All this actions are part of the process that has been certified by ISO. This is a very relevant input for the improvement of the SP, as it is established in the Quali-

	ty Assurance Programme. Regarding the influence of the students´ feedback on the salary of the staff members, there is a misunderstanding. As it was pointed out in the self-evaluation report, the students' opinions help finding the opportunity areas for the teachers to improve their performance, but they have no influence on their salary. The teachers' salary is established by contract, and each year there is an agreement between the General Administration and the Syndicate when the salary can be increased. Another way for increasing the salary is according to the updating, postgraduate studies and productivity of the teachers. Students´ feedback is just for continuous quality improvement.

F Summary: Peer recommendations (08.05.2015)

Taking into account the additional information and the comments given by UJED, the peers summarized their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN seal	Subject-specific Label	Maximum duration of accreditation
Ba Forestry Science Engineering	With requirements	n/a	30.09.2020

Requirements

A 1. (ASIIN 1.1) The intended learning outcomes at programme level must be defined in a way that makes them measurable and assessable.

A 2. (ASIIN 1.2) It must be made transparent in publicly available English language documentation that graduates of the programme are not “engineers” in the usual English professional sense of the word.

A 3. (ASIIN 2.2) The ECTS should be re-calculated using a consistent conversion rate in line with the ECTS Users’ Guide.

A 4. (ASIIN 3) The programme 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.

A 5. (ASIIN 3) The exams per module (learning unit) must be suitable to assess the achievement of the intended learning outcomes at the desired level. The exam systems / methodology must allow for independent learning of students and avoid structural pressure on the students. The module descriptions must also clearly state the exam types in use, the number of exams, and how they contribute to the calculation of the final module grade.

Recommendations

E 1. (ASIIN 1.3) It is recommended to facilitate the way students can develop an individual focus in the curriculum.

E 2. (ASIIN 2.2) It is recommended to introduce quality assurance mechanisms for verifying that all credits are clearly linked to learning outcomes.

E 3. (ASIIN 4.2) It is recommended to more actively encourage teaching staff to pursue research projects.

E 4. (ASIIN 4.3) It is recommended to increase the resources (space, resources) for teaching the GIS-related modules.

E 5. (ASIIN 5.2) It is recommended to provide information about the national education system in the Diploma Supplement.

E 6. (ASIIN 6) It is recommended to further systemize and update the way feedback and data from stakeholders are collected in order to have more accurate grounds for decision-making.

G Comment of the Technical Committee - Agronomy, Nutrition Science and Landscape Architecture (16.06.2015)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discussed the procedure and fully endorsed the assessment of the peer panel as well as their proposals for requirements and recommendations.

The Technical Committee 08 – Agronomy, Nutrition Science and Landscape Architecture recommended the award of the seals as follows:

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Ba Forestry Science Engineering	With requirements	n/a	30.09.2020

H Decision of the Accreditation Commission (26.06.2015)

Assessment and analysis for the award of the subject-specific ASIIN seal:

The Accreditation Commission discussed the procedure and decided to transform the recommendation into a requirement asking to provide information about the national educational system in the Diploma Supplement. The recommendation to introduce quality assurance mechanisms ensuring that credit points awarded correspond to the learning outcomes was deleted. Furthermore, the Commission made editorial amendments to recommendations 3 and 4.

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

Degree Programme	ASIIN seal	Subject-specific labels	Maximum duration of accreditation
Ba Forestry Science Engineering	With requirements	n/a	30.09.2020

Requirements

A 1. (ASIIN 1.1) The intended learning outcomes at programme level must be defined in a way that makes them measurable and assessable.

A 2. (ASIIN 1.2) It must be made transparent in publicly available English language documentation that graduates of the programme are not “engineers” in the usual English professional sense of the word.

A 3. (ASIIN 2.2) The ECTS should be re-calculated using a consistent conversion rate in line with the ECTS Users’ Guide.

A 4. (ASIIN 3) The programme 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.

A 5. (ASIIN 3) The exams per module (learning unit) must be suitable to assess the achievement of the intended learning outcomes at the desired level. The exam systems should allow for independent studying. The module descriptions must also clearly state the exam types in use, the number of exams, and how they contribute to the calculation of the final module grade.

A 6. (ASIIN 5.2) The Diploma Supplement must provide information about the national education system.

Recommendations

E 1. (ASIIN 1.3) It is recommended to facilitate the way students can develop an individual focus in the curriculum.

E 2. (ASIIN 4.2) It is recommended to more actively encourage teaching staff to pursue research projects.

E 3. (ASIIN 4.3) It is recommended to increase the resources for teaching the GIS-related modules.

E 4. (ASIIN 6) It is recommended to further systemize and update the way feedback and data from stakeholders are collected in order to have a more accurate basis for decision-making.

I Fulfilment of Requirements (01.07.2016)

Analysis of the peers and the Technical Committee

Requirements

A 1. (ASIIN 1.1) The intended learning outcomes at programme level must be defined in a way that makes them measurable and assessable.

Erstbehandlung	
Peers	*not fulfilled* Statement: Documents do not provide evidence on how the measuring and assessment shall be implemented. Also, there seems to be some uncertainty on the HEIs side as to whether this requirement is referring to learning outcomes on programme level or on module level, respectively.
TC 08	*not fulfilled* Statement: The Technical Committee agrees with the assessment of the expert panel. It therefore considers the requirement to be not fulfilled satisfactorily.

A 2. (ASIIN 1.2) It must be made transparent in publicly available English language documentation that graduates of the programme are not “engineers” in the usual English professional sense of the word.

Erstbehandlung	
Peers	*not fulfilled* Statement: The HEI has provided no evidence on its websites that specifies the point made by the members of the panel. Apparently, it missed the point due to a misunderstanding of the peers’ concern. This is about the usual English professional sense of the word “engineers” that implies a strong focus on mechanical or electrical engineering, and forestry engineering and thus on the design, construction, operation and maintenance of heavy machinery, sawmilling, construction of roads and bridges etc., as opposed to forest management, silviculture, ecology etc. From the perspective of the expert panel, it would be enough to include a small paragraph on their website to make this point clear.
TC 08	*not fulfilled* Statement: The Technical Committee agrees with the assessment

	of the expert panel. It therefore considers the requirement to be not fulfilled satisfactorily.

A 3. (ASIIN 2.2) The ECTS should be re-calculated using a consistent conversion rate in line with the ECTS Users' Guide.

Erstbehandlung	
Peers	fulfilled Statement: The auditors consider this requirement largely fulfilled. However, they point to the fact that the conversion rate from the Mexican into the European Credit point system appears to be not consistently applied. Thus, in some transfer sheets in the Appendix but also in the DS the conversion figures differ from those described in the Equivalence Chart. Also, once converted to ECTS, the programme should be totaling to 154 (rounded) credits. However, at the Diploma Supplement the total ECTS is 183.5 credits.
TC 08	*fulfilled* Statement: The Technical Committee agrees with the assessment of the expert panel.

A 4. (ASIIN 3) The programme 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.

Erstbehandlung	
Peers	*partly fulfilled* Statement: The document provided by the UJED proved evidence that the study programme is finished by alternative routes which, principally, should guarantee that students can carry out an assigned task independently and at the level of the qualification sought. Nevertheless, the Directive Board (Rectoría) has not yet approved the proposal. There should be further evidence for the approval and authoritative implementation of the proposal from Rectoría.
TC 08	*not fulfilled* Statement: The Technical Committee agrees with the assessment of the expert panel. Consequently, it considers the requirement to be not fulfilled satisfactorily.

A 5. (ASIIN 3) The exams per module (learning unit) must be suitable to assess the achievement of the intended learning outcomes at the desired level. The exam systems should allow for independent studying. The module descriptions must also

clearly state the exam types in use, the number of exams, and how they contribute to the calculation of the final module grade.

Erstbehandlung	
Peers	fulfilled Statement: Peers regard this requirement to be fulfilled satisfactorily. The learning outcomes (contenidos e productos de aprendizaje) of the respective learning units have been described. Performance criteria have been established with respective values of weighting. Following that, these learning outcomes can be assessed quite adequately.
TC 08	fulfilled Statement: The Technical Committee agrees with the assessment of the expert panel.

A 6. (ASIIN 5.2) The Diploma Supplement must provide information about the national education system.

Erstbehandlung	
Peers	fulfilled Statement: The Diploma Supplement attached describes well the Mexican educational system.
TC 08	fulfilled Statement: The Technical Committee agrees with the assessment of the expert panel.

Decision of the Accreditation Committee (01.07.2016)

Following the peers' assessment, the Accreditation Commission states that requirements 2 and 4 are not fulfilled yet. Regarding requirement 1 it concludes that, in general, objectives such as values and attitudes are more of an overall and implicit aim of a study course as opposed to learning outcomes in the narrow sense which could be taught and assessed in a meaningful manner.

Statement regarding requirement 2

The HEI provided no evidence on its websites that specifies the point made by the members of the panel. The peers' concern is about the usual English professional sense of the word "engineer" that implies a strong focus on mechanical or electrical engineering, and

forestry engineering and thus on the design, construction, operation and maintenance of heavy machinery, sawmilling, construction of roads and bridges etc., as opposed to forest management, silviculture, ecology etc. From the perspective of the expert panel, it is necessary but at the same time would be sufficient to include a small paragraph on the HEI's website to make this point clear.

Statement regarding requirement 4

The document provided by the UJED proved evidence that the study programme is finished by alternative routes which, principally, should guarantee that students can carry out an assigned task independently and at the level of the qualification sought. Nevertheless, the Directive Board (Rectoría) has not yet approved the proposal. There should be further evidence for the approval and authoritative implementation of the proposal from Rectoría.

The Accreditation Committee decides to extend the accreditation term as follows:

Degree Programme	**ASIIN seal**	**Subject-specific labels**	**Duration of accreditation**
Ba Forestry Sciences Engineering	requirements 2, 4 *not* fulfilled	n/a	23.01.2017

J Fulfilment of Remaining Requirements (09.12.2016)

Analysis of the peers and the Technical Committee (November 2016)

Requirements

A 7. (ASIIN 1.2) It must be made transparent in publicly available English language documentation that graduates of the programme are not "engineers" in the usual English professional sense of the word.

Erstbehandlung	
Peers	*not fulfilled* Statement: The HEI provided no evidence on its websites that specifies the point made by the members of the panel. Apparently, it misses the point due to a misunderstanding of the peers' concern. This is about the usual English professional sense of the word "engineers" that implies a strong focus on mechanical or electrical engineering, and forestry engineering and thus on the design, construction, operation and maintenance of heavy machinery, sawmilling, construction of roads and bridges etc., as opposed to forest management, silviculture, ecology etc. From the perspective of the expert panel, it would be enough to include a small paragraph on their website to make this point clear.
TC 08	*not fulfilled* Statement: The Technical Committee agrees with the assessment of the expert panel. It therefore considers the requirement to be not fulfilled satisfactorily.
AC	*not fulfilled* Vote: unanimously Statement: The Accreditation Commission fully agrees with the assessment of the Technical Committee.
Re-Submission	
Peers	fulfilled Statement: There is an information on the website of UJED which unmistakably points out the difference of „engineer" and „forest engineer".
TC 08	fulfilled Statement: The Technical Committee agrees with the assessment

	of the peers.

A 4. (ASIIN 3) The programme 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.

Erstbehandlung	
Peers	*partly fulfilled* Statement: The document provided by the UJED proved evidence that the study programme is finished by alternative routes which, principally, should guarantee that students can carry out an assigned task independently and at the level of the qualification sought. Nevertheless, the Directive Board (Rectoría) has not yet approved the proposal. There should be further evidence for the approval and authoritative implementation of the proposal from Rectoría.
TC 08	*not fulfilled* Statement: The Technical Committee agrees with the assessment of the expert panel. Consequently, it considers the requirement to be not fulfilled satisfactorily.
AC	*not fulfilled* Statement: The Accreditation Commission fully agrees with the assessment of the Technical Committee.
Re-Submission	
Peers	fulfilled Statement: There is evidence that the Directive Board (Rectoría) has approved the proposal in the meantime
TC 08	fulfilled Statement: The Technical Committee agrees with the assessment of the peers.

Decision of the Accreditation Commission (09.12.2016)

The Accreditation Commission decides to prolong the accreditation of the degree programme as follows:

Degree Programme	**ASIIN seal**	**Subject-specific labels**	**Duration of accreditation**
Ba Forestry Sciences Engineering	remaining requirements fulfilled	n/a	30.09.2020