ASIIN Seal & EUR-ACE

Accreditation Report

Bachelor's Degree Programme
Natural Resources Management Engineering
PhD Programme
Natural Resources Management

Provided by
Universidad Autónoma de Nuevo Leon (Mexico)

Version: 09 April 2024

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 Manejo de Recursos Naturales	Ba Natural Resources Management Engineering	EUR-ACE®	29.09.2017-30.09.2023	
Doctorado con Orientación en Manejo de Recursos Naturales	PhD Natural Resources Management		29.09.2017-30.09.2023	
Date of the contract: 19.12.2023 **Submission of the final version of the self-assessment report:** 19.07.2023 **Date of the onsite visit:** 18.10.2023-19.10.2023 **at: Campus Linares**				
Expert panel: Prof. Dr. Jürgen Pretzsch, Technical University Dresden Prof. Dr. Carsten Mann, University for Sustainable Development Eberswalde; Dr. Emily García-Montiel, Agave-Mezcal Pablo Melin, student at Universidad Juarez del Estado de Durango				
Representatives of the ASIIN headquarter: Daniel Seegers				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				
Criteria used:				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes;
[2] TC: Technical Committee for the following subject areas: TC 08 - Agriculture, Forestry and Food Sciences

European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 07, 2021 Subject-Specific Criteria of Technical Committee 08 – Agriculture, Forestry, Food Sciences, and Landscape Architecture as of March 27, 2015 ASIIN Additional Criteria for Structured Doctoral Programmes as of March 15, 2021	

B Characteristics of the Degree Programmes

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
Ba Natural Resources Management Engineering	Licenciatura en Ingeniería/ B.Sc.		6	Full time		9 Semester	209 ECTS	Fall Semester / June 2003
PhD Natural Resources Management	Doctorado en Ciencias/ Doctoral degree		8	Full time		6 Semester	120 ECTS	Every Semester / August 1999

For the Bachelor of Science in Natural Resources Management Engineering, the institution has presented the following objectives in the Self-Assessment Report (SAR):

„To train natural resource management engineers capable of properly managing natural resources, considering the requirements of social welfare, health and economic needs, respecting cultural, social and religious practices and displaying ethical, creative and proactive behavior. These competencies enable alumni to integrate with the public and private sectors to develop innovative projects that solve problems related to the management, use, conservation, and restoration of natural resources. In addition, they are able to intervene adequately in situations involving the improvement of animal and plant populations, as well as the use of resources, their conservation, and the restoration of critical or endangered ecosystems. All of this is done by applying basic ecosystem monitoring, measurement, and assessment techniques and using advanced digital tools and geographic information systems to ensure the sustainability of ecosystem services for the socioeconomic development of the country and society through behaviors that respect the diversity of social and cultural practices in local, national, and international contexts.“

For the PhD programme in Natural Resources Management, the institution has provided the following objectives in the SAR:

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

„The problems facing humanity are complex and require multidisciplinary approaches. This situation demands dynamic and viable solutions that adapt to landscape, cultural and economic variants. The objective of the Doctoral Program in Sciences with Orientation in Natural Resources Management is to direct and motivate the student towards free thinking, independence in the generation of cutting-edge knowledge, through research, teamwork, and a critical and objective attitude. In addition, that its graduates possess ecological sensitivity, social values and are able to transmit and disseminate the development of new knowledge to influence the conservation and sustainable management of natural resources.“

C Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content & Implementation

Criterion 1.1 Objectives and Learning Outcomes of a Degree Programme (Intended Qualifications Profile)

Evidence:

- Self-Assessment Report
- University Website
- Module Handbooks
- Audit Discussions

Preliminary assessment and analysis of the experts:
The auditors base their assessment of the learning outcomes of the bachelor's degree programme "Natural Resources Management Engineering" (NRME) and the doctoral programme "Natural Resources Management" (DRME), on information provided on the website and in the SAR as well as the discussions during the on-site visit.

Universidad Autónoma de Nuevo León (UANL) has published General Competences for both programmes. These competences fall into three categories: Instrumental competences, Personal and Social Interaction skills, and Integrating competencies. Additionally, programme-specific Specific Competences exist.

The programme objectives undergo regular review through a collaborative process that involves all relevant stakeholders. For the bachelor's programme, this comprehensive evaluation occurs on average every four years. The latest assessment cycle resulted in the implementation of the revised study plan, Plan 430, in 2022. Moving forward, a modification to the PhD program's curriculum is set to be implemented in 2024. The experts

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

acknowledge that the ongoing commitment to regular evaluation and adaptation demonstrates UANL's dedication to ensuring relevance and alignment of educational objectives with the ever-changing academic and professional spheres.

The website for the bachelor's programme provides accessible information on learning outcomes, study plans, and the overall curriculum. However, the experts note that this information is currently unavailable for the PhD programme.

The auditors use the Subject-Specific Criteria (SSC) of the Technical Committee for Agriculture, Forestry and Food Sciences as a basis for evaluating whether the desired learning outcomes of the Programmes defined by UANL align with the competencies outlined in the SSC.

The General Competences of both programmes are designed to enable graduates to acquire a comprehensive range of skills. These skills are classified into instrumental, personal, and integrating domains, and are intended to equip students with versatile abilities and perspectives.

Instrumental competencies aid in the development of self-directed learning strategies, enhancement of communication skills in diverse modes, and cultivation of critical thinking for responsible decision-making. Proficiency in both the first language and a second language is prioritized to ensure effective communication across different contexts.

In the area of personal and social interaction skills, students are encouraged to value and interact with various social and cultural practices. The curriculum motivates critical thinking towards contemporary societal issues, while also instilling values such as honesty, fairness, courtesy, and ethical conduct.

The integration of skills aims to develop innovation, leadership, conflict resolution, and adaptability. Students are guided to develop interdisciplinary academic proposals, take on leadership roles dedicated to enacting social change, and effectively resolve conflicts utilizing specific techniques. The study programme prioritises adaptability in unpredictable professional settings, equipping students with the skills necessary for dynamic societal landscapes.

Graduates of the Natural Resource Management bachelor's programme are expected to make valuable contributions to the field. They are required to exhibit expertise in the use of constant monitoring techniques to study wildlife populations and create extensive resource management programmes. The programme places emphasis on adhering to environmental legislation for sustainable resource extraction and formulating innovative plans that integrate biotic, abiotic, and socioeconomic information. Upon successful completion of the programme, graduates will be adept at evaluating crucial ecosystems to guarantee

the sustenance of ecological procedures and amenities. The curriculum prioritises a pragmatic approach, fostering equilibrium between theoretical knowledge and practical expertise in natural resource management.

Graduates of the PhD programme in Natural Resources Management are expected to demonstrate advanced competencies within their specialised field. They are required to seamlessly integrate up-to-the-minute knowledge in a multidisciplinary manner, while paying respect to cultural diversity for the betterment of society. Utilising cutting-edge methodologies, they are able to quantify and classify natural resources based on scientific procedures, thus facilitating informed decision-making for the purpose of sustainable resource utilisation. Furthermore, the programme cultivates the capacity to suggest creative strategies for managing natural resources, accounting for social, ecological, and economic considerations. The programme equips graduates with the skills to enhance natural resource management and preservation through comprehensive approaches. Graduates will develop a deep understanding of the importance of natural resource management and preservation and apply this knowledge practically. Furthermore, graduates will be capable of producing research outcomes with a comprehensive perspective, resolving issues and advancing natural resource management methodologies. The focus is on technology transfer to impact social development while advancing knowledge. Additionally, graduates possess skills to manage and implement sustainable use plans for natural resources, taking into account social, ecological, and economic factors, thereby contributing to enhancing the rural sector's economy while safeguarding natural resources. The programme prioritises a comprehensive range of skills that extend beyond academic excellence. Its goal is to equip graduates with the ability to make significant contributions to society via natural resource management improvement.

Graduates of the bachelor's programme in Natural Resource Management Engineering have versatile career options. They can work in public institutions at various levels, regulating and conserving environmental resources. Private companies with environmental departments or those involved in activities related to natural resources are potential employers. Educational institutions focusing on natural sciences and resource management also offer opportunities. Moreover, graduates can make a meaningful impact in non-governmental organizations dedicated to environmental conservation and improvement.

The doctoral programme in Natural Resources Management provides advanced career pathways. Graduates can take on influential roles within public sector institutions at federal, state, and municipal levels, overseeing environmental regulation and the conservation of natural resources. Additionally, opportunities arise in educational institutions, both public and private, focusing on natural sciences and offering programs in environmental care, education, and resource management. Graduates may also explore postdoctoral positions

to contribute to cutting-edge research and deepen their expertise in natural resources management.

In summary, the experts are convinced that the qualification profiles envisaged for both programmes will enable graduates to take up a job that corresponds to their qualifications. This conclusion was supported by the industry representatives present during the audit, who regularly employ students from both programmes.

The degree programmes have been thoughtfully designed to align with their overarching objectives. However, the experts have identified areas for improvement, particularly in the realm of students' proficiency in economics, legal and policy knowledge, and business planning abilities, hence in social sciences. The experts recommend fostering deeper interdisciplinary connections with fields in the socio-economic realm as a constructive step forward. This comprehensive approach is suggested to enhance students' understanding of the field of natural resources, encompassing aspects such as economics, legal considerations, and social implications. Emphasizing a more interconnected and nuanced perspective is recommended, as it can contribute to the development of a systems-based understanding of forest management, and a well-rounded understanding that transcends core disciplinary boundaries, ultimately enhancing students' proficiency in natural resource management.

Lastly, the university has applied for the EUR-ACE accreditation for its Bachelor's programme. However, the experts have raised concerns about the adequacy of the current engineering component to meet the criteria for the label. This aspect was also debated in the prior review, which improved the comprehension of the disparity between the engineering term in Mexico and its European counterpart.

However, currently, the programme does not meet the EUR-ACE standards as assessed by the experts. As a result, the accreditation from EUR-ACE cannot be awarded at this moment.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Self-Assessment Report
- University Website
- Audit Discussions

Preliminary assessment and analysis of the experts:
The experts confirm that the English translation and the original Mexican name of the study programmes under review correspond with the intended aims and learning outcomes as well as the main course language.

Criterion 1.3 Curriculum

Evidence:

- Curriculum of the programmes as depicted in the Appendix of this report
- Self-Assessment Report
- Module Handbooks
- Audit Discussions

Preliminary assessment and analysis of the experts:
The SAR indicates that the bachelor's degree programme is designed for nine semesters and comprises an overall amount of 205 ECTS. It consists of two cycles.

The first cycle is made up of the initial two semesters. Essential academic modules comprise Culture of Peace, Ethics and Culture of Legislation, Physics, Geomorphology, Chemistry, Mathematics, Botany, and Zoology. These modules offer a thorough grounding in fundamental concepts.

The second cycle consists of seven subsequent semesters, delivered by the Faculty of Forestry Sciences (FFS). Students study Environmental Economics, Wildlife Sampling Techniques, Geographic Information Systems, Legislation, Environmental Policy, and other related subjects. The curriculum gradually introduces elective topics to personalise the educational experience. This culminates in a professional performance seminar, an elective subject, and an opportunity for a research project or professional internship in the ninth semester.

The programme has been systematically created, harmonizing theoretical knowledge with practical applications. The programme meets its goals, offering learners a comprehension of natural resource management. The incorporation of optional subjects reinforces adaptability, enabling students to modify their curriculum. The focus on practical experience, research opportunities, and professional growth in later semesters prepares graduates for a wide range of careers in the field. The bachelor's programme equips students with the

essential skills for efficient natural resource management, facilitating sustainable practices and environmental conservation.

While acknowledging the programme's alignment with its objectives, the experts propose refinement in particular aspects. Evidently, there is accord with prior evaluations, highlighting the necessity of enhancing students' understanding of economics, legal and policy issues, and business planning abilities. In the changing realm of natural resources management, characterized by marginal income from natural resource management in Northern Mexico, graduates require necessary skills to navigate the socio-economic aspects linked to the area proficiently.

Furthermore, the experts recommend producing a thorough outline for students that encompasses the different study routes offered via elective options. Moreover, rescheduling elective modules at a later stage in the curriculum enables students to make more informed decisions, aligning with their developing interests and better equipping them for the particular aspects of natural resource management.

Overall, the programme's structure receives praise from the experts. However, they suggest specific refinements to equip graduates in meeting the contemporary demands of natural resources management. The proposed recommendations aim to improve adaptability to dynamic challenges and provide students with a more tailored and holistic educational experience.

The Natural Resources Management PhD Programme, which spans three years and includes 120 ECTS, presents an all-encompassing and enriching learning experience. Its foundation comprises three captivating seminars that explore the complexities of sustainable forest ecosystems. These seminars provide space for students to actively participate in presentations, conduct case studies orally, and engage in practical exercises, thereby nurturing a collaborative and intellectually stimulating environment.

Four elective modules supplement the seminars, enriching and customising the curriculum. These modules provide students with a chance to delve deeper into their research interests, exploring several specialised areas. The curriculum aims to equip students with theoretical knowledge and practical skills required for pioneering research and meaningful contributions to the natural resources management field.

In particular, the structure allows PhD students to specialize and broaden their knowledge in one or more subject fields of their choice, and by the same time leaves enough room for them to gradually deepen their newly acquired knowledge in a research project and seminars. The experts appreciate the research focus of the PhD programme, reflected in the

idea to have a major research project worked on through the whole study period. Commencing in the first semester (research proposal) and its progression supervised through three successive seminars, its results shall be consolidated in the final draft of the doctoral thesis. Switching between elective modules offered in blocks and seminars up to the fourth semester is regarded as an adequate didactical devise to serve the defined educational objectives, in particular to develop the intended research capabilities of the students. The elective modules covering the different specialisation areas appear to be deliberately chosen and are, in principle, framed coherently and consistently as self-contained teaching / learning units.

However, although the program's open approach is commendable, the experts have reservations about the overall curriculum and see a need for better laying the foundations for scientific research. This critical perspective stems not only from the evaluation of scope of the theses, but was also apparent during the examination of the submitted documents. The experts maintain that enhancing the learning experience for students would significantly occur by implementing a more comprehensible core research framework for deepening scientific skills in dedicated modules, such as in research methodology, and inter- and transdisciplinary methods. The selection of modules should contribute to a more focused profile, demonstrating a unique feature. Such a structured science and research methodology approach is predicted to improve the quality of PhD theses, consistent with the program's ultimate objective of enhancing educational standards.

International Mobility:

Overall student mobility at least in English-speaking countries seems to be rare, as has been observed too, in the ongoing CONACYT[5] evaluations mentioned in the SAR. With regard to the educational objectives and potential job market perspectives in the international arena, taking appropriate measures to strengthen the English language skills of the students is considered an urgent issue by the auditors. In this respect, the experts stress that encouraging students to do short stays at other national or international universities where they do not require a high score in English language is not viewed as helpful, but on the contrary. The fact that apparently most of the cooperation agreements of the Faculty, which primarily serve as a basis for student/teacher mobility, are concluded with universities in Spanish speaking countries may be indicative of this observation, and a diversification in this respect might be considered as well. The diversification of cooperation agreements with institutions in non-Spanish-speaking countries is proposed. The experts therefore recommend that a comprehensive list of exchange programmes and courses offered by English-speaking partner universities should be compiled e.g. by the International Office to help

[5] [5] CONACYT – Consejo Nacional de Ciencía y Tecnología

prospective students find suitable placements, and that more courses should be offered in English to support this.

Periodic Review of the curricula:

The curricula are subject to regular thorough review to maintain their currency and relevance. This involves collaboration with stakeholders, including students, alumni and employers. Valuable feedback is actively incorporated, and recent updates, such as Plan 430 for the Bachelor's programme in 2022, demonstrate a commitment to responsiveness. A similar modification is slated for the PhD programme in 2024. This iterative process underscores UANLS dedication to providing a cutting-edge education that meets evolving industry needs and exceeds stakeholder expectations.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- University Website

Preliminary assessment and analysis of the experts:
Admission to the Natural Resources Management Engineering bachelor's program mandates a demonstrated passion for nature, teamwork, and a commitment to sustainable environmental problem-solving, aligned with competencies at the High School level. The biannual enrolment process, conducted by the Autonomous University of Nuevo Leon (UANL), involves the National Enrolment Exam (EXANI II) encompassing Biology and Financial Mathematics modules for NRME applicants.

EXANI II, featuring variable score criteria, comprises five modules, a General Education section, and an English Language section. Exam results, transmitted to the FFS Dean, influence final acceptance decisions. Candidates are required to achieve a minimum score of 1000 out of a possible range of 800 to 1450 points. The maximum intake is 30 students annually, considering facility and teaching capacity. Despite peaking at 30 accepted students in 2019, the numbers dipped to a minimum of 14 in 2021, showing signs of resurgence in 2022.

Prospective Doctoral Programme students are expected to demonstrate independent research management skills, a commitment to innovation, the ability to work in a multidisciplinary environment, and a strong interest in the social and cultural environment.

UANL organises nine annual enrolment periods for the Graduate Admissions Competition, calling for potential students to join (https://www.uanl.mx/tramites/concurso-de-ingreso-

a-posgrado/). Two established dates, in May and October, correspond to the August and January semesters, respectively.

To be eligible, candidates must possess a Master of Science degree, or its equivalent, from a recognized institution in a related field, with a minimum grade point average of 80. Additionally, candidates are required to take the National Graduate Entrance Examination (EXANI-III) by CENEVAL, achieving a minimum score of 1000 out of a possible range of 700 to 1300 points. The examination evaluates academic competencies, specialized expertise, reading comprehension, and English fluency at a B2 level.

As a programme requirement, applicants must also take the English Proficiency Test (EXCI) administered by the UANL (minimum 30 points) and the TOEFL exam (minimum 400 points). The Academic Secretariat of the School of Forestry Sciences (FFS) appraises applicants based on their EXANI-III scores and interviews, subsequently determining their acceptance or rejection. The overall number of accepted students in the Doctoral Programme shows relatively stable figures, peaking at 15 accepted students in 2023.

The auditors have concluded that the admission terms are both binding and transparent, and confirm that these requirements effectively contribute to students achieving the intended learning outcomes.

However, the audit reveals a decline in the number of applicants for the bachelor's programme and it was evident that the FFS may face challenges in increasing this figure independently. As per the experts, UANL should promote the FFS programmes on a wider scale than just the Linares campus. Therefore, it is suggested that UANL extends the reach of these programmes to increase their visibility. This approach aims to not only attract local students but also generate interest among potential students from neighbouring regions.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Module Handbooks
- Audit Discussions

Preliminary assessment and analysis of the experts:
UANL has devised a credit point system that is almost similar to the main features of the ECTS system. That is say, that the estimated amount of work, students are to bear for the completion of a module does include both attendance-based learning and self-study time.

One credit point is awarded for 30 hours of student workload. On the basis of 20 weeks of attendance time per semester, the number of credit points awarded for each module thus leads to the ratio of attendance time versus self-study time. The overall workload of students per semester appears to be much more moderate compared with the average student workload in any European study programme of approx. 30 ECTS points, ranging from 20 to 24 ECTS points in the bachelor's degree programme and 8 to 26 ECTS in the doctoral programme.

The modules in the undergraduate programme have a varying ECTS size ranging from 2 to 20, with 3 and 4 ECTS being the most commonly used numbers. Section D2 will further elaborate on the specific digits for the PhD programme. According to module contents, the experts believe these figures to be reasonable. The students from both programmes corroborate the assigned workload and credit points' accuracy, leading the experts to conclude that there is no apparent issue related to the workload. However, for a more thorough comprehension, the experts request that UANL provide figures on the average duration of studies for both programmes. This will aid in acquiring further statistical information that could offer insight beyond what has been shared by the students.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- Module Handbooks
- Audit Discussions

Preliminary assessment and analysis of the experts:
Reportedly, there are different educational methods in place, with lectures, exercises, laboratories, professional practice, seminars and case studies, field trips to different ecosystems, research projects, participation in regional, national or international conferences as well as participation in national and international research internships or exchange programmes. The experts are told that the application, extent and weight of the teaching methods are up to the individual professor and decided on with particular attention to the intended learning outcomes of the respective module. The intention is to look at specific topics from different angles and to see how different units can make contributions to achieve the learning outcomes.

It is regularly reviewed whether the subject-specific and didactic qualifications of the lecturers contribute adequately to the delivery of the degree programme. The FFS conducted a survey to assess the quality of the teaching-learning methods used in the learning units,

and the results showed that 75% of the respondents agreed that the teaching-learning methods used in the learning units were adequate.

Following that, it can be concluded that the teaching methods and instruments in use generally support the students in achieving the learning outcomes. On request, the students confirmed this judgement.

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

1.1

The university intends to publish information about the new 2024 study plan on its website in July 2024. Experts are currently maintaining their requirements and waiting for its publication or accessibility for stakeholders and prospective students. However, the experts also emphasize that a new curriculum would require a fresh review. Therefore, this review is based on the current curriculum, which requires the university to apply for a change in the current accreditation status by submitting documents that document this substantial change. The decision will determine whether the accreditation can be transferred to the new curriculum version or if the changes are significant enough to warrant a comprehensive new review.

The university acknowledges the importance of interdisciplinary skills in its recruitment strategy. Experts commend UANL for considering their recommendations and encourage further improvement in their programmes in this area.

1.3

According to UANL, the PhD programme has been undergoing redesign since 2022 and will incorporate suggested improvements to the core research framework. The experts are pleased with this development and expect that these changes will provide students with a stronger foundation and better guidance throughout the programme.

UANL notes that currently, three compulsory subjects are taught in English to reinforce language skills and knowledge. The faculty also highlights the existence of a Self-Learning Center for foreign languages. UANL recognizes that some students may not meet the language requirements for international mobility, which may create a contradiction, despite considering their programme as preparation for the English-speaking scientific community. The experts maintain their recommendation, in the light of current student mobility figures, to strengthen both, international and national mobility, and to encourage students to engage in international mobility, possibly by improving their English language skills.

1. 4

The faculty has announced a plan to enhance program promotion in Monterrey and other municipalities. This plan involves visiting more high schools in Nuevo Leon and providing exhibitions and audiovisual materials. In addition, the new curriculum aims to enhance opportunities for international students to pursue a semester in Nuevo Leon through online learning. The experts approve of this plan but also stress the importance of the university supporting the faculty in these efforts.

1.5

Furthermore, the university has presented statistics on the average study duration, which support the numbers communicated during the audit. From the experts perspective, students are generally able to complete their study programs within the designated time, although some may choose to extend their studies for various reasons.

The experts consider Criterion 1 to be **not fulfilled** by the PhD programme.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report
- Module Handbooks
- Sample of Examination Papers and Final Theses provided during the audit
- General assessment regulations http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/07evaluaciones.pdf (Access: 11.12.2023)
- Audit Discussions

Preliminary assessment and analysis of the experts:
In both the bachelor's and PhD programme, students' academic performance is assessed through diverse methods such as exams, presentations, reports, and projects, aligning with the rubrics provided at the start of each semester. The minimum passing score is set at 70 points for the bachelor's programme and 80 points for the PhD programme on a 0 to 100 scale. There is flexibility in preparing for exams, reports, and other assessments during a designated period before the semester ends. In case of module failure, students have additional opportunities, with specific regulations governing these chances. The Integrated

Electronic System for the Administration of Educational Services (SIASE) facilitates the management of student affairs, resources, and academic progress, ensuring secure access and support for decision-making by academic staff and the Registrar.

All regular courses comprise two or three midterm examinations or homework besides a final examination to ensure a continuous assessment of learning. Given the mostly small size of the modules and the big number of modules per semester, the experts explicitly approached the students to understand how they deal with the overall load of examinations. But the latter confirmed that in general the examinations are well distributed over the semester and the examination load appears adequate to them. The experts learnt that there is a two weeks-period at the end of the semester where students can prepare their last examination sections, handle field or lab reports, seminars or other work depicted in the instructions forms. Relating to that arrangement, the students also confirmed that there was sufficient preparation time for the final examination.

The experts view this examination approach as a suitable tool to guarantee a diverse and thorough assessment of students' academic performance. They appreciate the comprehensive assessment method for targeting various levels of competences simultaneously. In conclusion, the examinations are thoughtfully structured to encompass the intended learning outcomes and furnish students with continuous feedback on their competence development progress.

During the onsite visit, the experts have analysed the examinations and confirmed that they were of adequate standard at the level aimed at.

At the conclusion of their studies, bachelor students are presented with the option to pursue either an internship or a thesis, each carrying 24 credits. While the experts appreciate the inclusion of practical experience through an internship, they caution that such practical exposure cannot substitute the individual research undertaken during a thesis. Consequently, the experts urge UANL to explore a resolution to incorporate both components seamlessly into the curriculum. At present, it is felt that the interchangeability of thesis and internship does not meet the ASIIN criteria, which require a mandatory final project or thesis that demonstrates the student's ability to work independently on a task at the intended level of the programme.

The PhD theses presented proved challenging for the experts to comprehend. Despite learning that students initiate their thesis work at the outset of their studies through research proposals, the experts remain uncertain about whether the presented samples represent individual segments, comprehensive works, or mere summaries of the research endeavors. Receiving a count of published and submitted papers for cumulative dissertations would be beneficial for the review. Moreover, given that students continuously engage in

thesis work, the experts find it perplexing why the final thesis carries only 24 credits, equivalent to the workload attributed to a bachelor thesis. The experts seek clarification on these aspects and propose the submission of a complete sample PhD thesis as well as a substantial module description for better understanding.

During the visit, one issue raised regarding the examination system was the absence of provision for students with special needs during examinations. Both students and staff members confirmed the lack of established rules accommodating physical or psychological disabilities, which might necessitate special arrangements, such as additional time or other necessary accommodations. The experts ask UANL to proactively address the needs of students with disabilities when organizing exams to ensure equal opportunities for all students to perform optimally.

The meticulous examination and grading procedures form a robust evaluation framework for both programs. However, challenges arise in implementing measures for disability compensation and executing theses in both programs, casting some doubt on the overall effectiveness of these aspects.

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

The experts acknowledge that it is the university's prerogative to offer either a thesis or a professional internship as a means of completing the bachelor programme, and that the faculty must adhere to this decision. However, the experts emphasise that this approach does not align with the ASIIN Criteria, which require a final project or thesis that demonstrates students' ability to work independently on a scientific project according to good scientific practices. Although practical experience gained from internships is valuable, the experts cannot accept an internship as a substitute for a final project or thesis.

The Faculty of Forestry Sciences is presently in the process of negotiating an arrangement with experts in psychological care to support students dealing with mental health challenges and physical disabilities, given the increasing prevalence of such issues. Although the experts view this as a positive development, they underscore that their focus in this chapter is on addressing the challenges faced by students with disabilities or other disadvantages during examinations. The experts advocate for the Faculty to proactively facilitate these students to ensure they have an equal opportunity to excel in their exams. This may involve modifying the examination format to accommodate individual disadvantages faced by students.

Criterion 2 is considered **not fulfilled** by the experts.

3. Resources

Criterion 3.1 Staff and Staff Development

Evidence:

- Self-Assessment Report
- Staff Handbooks
- Audit Discussions

Preliminary assessment and analysis of the experts:

The FFS at the UANL has a teaching staff of 17 full-time professors involved in the PhD programme and 29 full-time professors involved in the bachelor's degree programme. Most of the professors hold PhDs and have extensive teaching and research experience. The faculty comprises professors with diverse professional orientations, such as forestry, ecology, biology, and environmental science, among others. The experts approve this diversity as it is suitable for delivering the degree programme successfully. The research and development of teaching staff contributes to the desired level of education. This is evidenced by the research projects conducted by professors and researchers organized in academic bodies that cultivate the generation and application of knowledge related to natural resource assessment and management.

Lecturers have the opportunity to further develop their professional and didactic skills and are supported in using corresponding offers. The FFSs offers travel funds for professional activities, including professional society activities, conferences, and workshops. These funds are mainly based on the Program for Strengthening Educational Quality (PFCE) and faculty research projects. Faculty members are also encouraged to attend professional teaching seminars and workshops sponsored by the University to improve their classroom skills and ability to interact effectively with students. These resources are available at no cost for the teaching staff. UANL encourages consulting and other external interactions with industry entities within University guidelines.

Adequate human resources and organizational structures are in place to provide subject-specific and general counselling, supervision, and support to students, as well as to handle administrative and technical tasks. The thesis committee requires that realistic constraints, based on faculty experience, be incorporated into each stage of the research project. A record of student theses is filed in the library, and a minute book is kept in the Graduate Academic Office.

Furthermore, in the summer of 2020, the university mandated that all faculty members participate in teaching capacity courses. These courses covered topics such as planning

course units, aligning content with allocated time and credits, and proposing various teaching and assessment methods.

During the meeting with the teaching staff, it became evident that the majority of lecturers are actively involved in research. However, the overall teaching load permits them to pursue research only during their free time. The experts recommend that UANL reviews the workload of the teaching staff and supports them in actively engaging in research. This is a crucial component for the development of the programmes' content, ensuring its relevance and keeping the programmes up to date.

In summary, the experts confirm that the composition, scientific orientation, and qualification of the teaching staff are suitable for successfully implementing and sustaining the degree programmes.

Criterion 3.2 Funds and equipment

Evidence:

- Self-Assessment Report
- Audit Discussions
- Visitation of the facilities

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

Concerning the Faculty's infrastructure, facilities and laboratory equipment, the experts approve the high quality facilities. It is noticed in this context that the acquisition of major equipment and instruments to support the educational objectives is principally regulated and closely monitored by the university. National research grants also function as a finan-

cial source for the acquisition, maintenance and upgrading of major equipment. The laboratories in use for both programmes, which the experts encountered during the onsite-visit, are generally found to be adequate to serve their major research goal. In this connection, the experts also welcome that the students do have sufficient access to research literature, particularly subject-related electronic books and periodicals.

The experts acknowledge the challenging financial situation in higher education in Mexico and recognise the difficulties faced by UANL, particularly the small campus in Linares, due to declining student numbers and increased competition for funding among faculties. However, they note that the existing facilities are in excellent condition and appear to be adequate to support the degree programmes.

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

The Faculty concurs with the experts' assessment and maintains their recommendation to monitor the teaching staff's workload. In the event of workload spikes, solutions must be found to ensure that lecturers can fulfil their duties and provide adequate teaching.

Criterion 3 is considered **fulfilled** by the experts.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Self-Assessment Report
- Module Handbooks

Preliminary assessment and analysis of the experts:
The experts observe that the module handbooks provide information about module responsibility, teaching methods, workload, credit points, intended learning outcomes, examination requirements, forms of assessment, applicability, admission requirements, and details on how the final grade is calculated. Programme information, including expected Learning Outcomes (LO), structure, curriculum, learning and assessment methods, and academic staff profiles, can be accessed through the department and faculty websites.

Unfortunately, the website does not provide information on the PhD programme, and the submitted documents do not include a module description for the Thesis. The experts are

requesting that UANL update the module handbook and website information to provide (prospective) students and other stakeholders with insight into the programme's content.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Reports
- Sample Diploma for each programme
- Sample Diploma Supplement for each degree programme

Preliminary assessment and analysis of the experts:
The experts confirm that the students of both programmes under review are awarded a Diploma and a Diploma Supplement after graduation. The Diploma consists of a Diploma Certificate and a Transcript of Records. The Transcript of Records lists all courses that the graduate has completed, the achieved credit points, grades, and cumulative GPA. The Diploma Supplements contain all the necessary information about the degree programmes.

Criterion 4.3 Relevant Rules

Evidence:

- Self-Assessment Report
- University Website
- Organisational Rules, available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/01LeyOrganica.pdf (Access: 11.12.2023)
- General Regulations, available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/03EstatutoGeneral.pdf (Access: 11.12.2023)
- General Regulations on admission procedures and student standing, available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/06admision.pdf (Access: 11.12.2023)
- General Regulations on Evaluations, available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/07evaluaciones.pdf (Access: 11.12.2023)

- Social Service, available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/08serviciosocial.pdf (Access: 11.12.2023)
- Graduation requirements, available on the internet at: http://transparencia.uanl.mx/normatividad_vigente/archivos/LyR09/09titulacion.pdf (Access: 11.12.2023)

Preliminary assessment and analysis of the experts:
After studying the submitted documents and conducting the on-site visit, the auditors see evidences that all necessary rights and duties of both UANL and students were clearly defined and binding. All rules and regulations are published on the university website and hence available to all relevant stakeholders.

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

UANL reiterates that the PhD programme will undergo changes and, as a result, is currently working on updating the module handbooks and other related documents. As no new documents have been submitted, the experts maintain their request.

The experts consider Criterion 4 to be **not fulfilled** by the PhD programme.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Audit Discussions

Preliminary assessment and analysis of the experts:
The experts note that the Faculty has put in place a process for defining, evaluating and assessing the educational objectives and students' outcomes of both programmes. At the same time, responsibilities for the proper conduct of these processes are clearly assigned and with the "Program Assessment Boards" organisational units have been set up resuming supervisory responsibility.

In terms of quality assurance, the Faculty mainly relies upon a multitude of survey instruments (Student Exit Survey, Alumni Survey and Employer Survey). These instruments, which have been applied in 2016 for the first time, are basically aimed at information about

whether the programme educational objectives actually fit the academic and professional needs of the graduates, alumni and employers. Additionally, they are designed and expected to deliver findings about the degree to which the defined educational objectives and intended learning outcomes actually have been realized from the perspective of relevant stakeholders (alumni and employers in this case).

As to the evaluation instruments, it is noted that course evaluations ("teacher evaluation") are conducted on a regular basis and the results also systematically taken into account in the continued programme monitoring. However, feedback to the students in the follow up-process of these evaluations seem to be rather accidental and largely at the disposal of the professor/lecturer. Apart from that, the involvement and active participation of the students in the (further) development of the study programme appears to be generally low. Thus, the development of a coherent feedback culture, including the effective closing of feedback cycles and sustainable follow-up processes, should be envisaged as next steps in the development of the quality assurance system.

All in all, the experts come to the conclusion that the Faculty has convincingly demonstrated its awareness of the quality assurance dimension of the degree programmes. To that end and at least to a certain extent, the documentation has illustrated how the collected data and information have been made use of in the revision of the programme under review. Nevertheless, the experts consider the quality assurance system to be improvable, particular with a view to feedback and follow-up processes with students. Moreover, it is generally seen advisable to gather meaningful cohort-wise statistical data concerning the graduation rate, the drop-out rate, the examination failure rate and the duration of study. The latter is particularly desirable, if decisions with the purpose of improving the curricular and / or organizational structure of the programme are to be drawn on a quantitatively reliable basis.

The practice partners are well motivated to support teaching and research. They are invited occasionally when needed. To better organize this important source of innovation a structured organization in a board is helpful.

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

UANL asserts an equitable representation of student participation on the Faculty's Board of Directors and expresses intentions to broaden student involvement in programme redesign. Additionally, the university shares evaluation results with students at the conclusion of each semester. While the experts commend these efforts, they refer to student feedback indicating that evaluation results are not consistently communicated to students across all

courses. Consequently, the experts request UANL to ensure consistent sharing of evaluation results with students in all courses, ideally with help of an institutionalised strategy.

UANL has furnished the requested data. Upon reviewing the data, the experts observe that approximately 50% of students in the bachelor programme successfully graduate. Despite learning some reasons during the audit, they find this graduation rate to be comparatively low. Consequently, the experts recommend that UANL conducts a thorough investigation into the underlying reasons and actively works on implementing solutions. These solutions should aim to either align students' expectations at the commencement of their studies or provide the necessary support to enhance the likelihood of successful program completion.

Criterion 5 is considered **not fulfilled** by the experts.

D Additional Criteria for Structured Doctoral Programmes

Criterion D 1 Research

Evidence:

- Self-Assessment Report
- Module Handbooks
- Audit Discussions

Preliminary assessment and analysis of the experts:
The doctoral program in Natural Resources Management is designed to equip students with the skills necessary for cutting-edge research and advancement to positions influencing the conservation and sustainable management of natural resources, both within Mexico and internationally. Graduates of this program are expected not only to generate impactful research results but also to actively contribute to ongoing discourse, requiring a synthesis of subject-specific competencies, management skills, mediation abilities, and an understanding of societal development.

To cultivate these competencies, students are consistently challenged to develop their independent research work, culminating in the completion of their Doctoral Thesis. Collaborating with a designated Tutor, the primary advisor, and other committee members responsible for evaluating the thesis, students chart their unique research paths, encompassing data collection, analyses, and interpretation.

A crucial step is for the student to submit a thesis proposal, which is reviewed by the thesis committee. Once the committee has approved the proposal, students are free to proceed with their individual research. Continuous monitoring of the student's research ensures that the expertise of the faculty is seamlessly integrated at every stage and that any potential constraints are addressed.

Complementing the core research field are elective modules designed to deepen students' knowledge within the discipline. Additionally, supervision is provided to refine research techniques and enhance students' experiences, ultimately fostering independent work and a focused orientation toward their chosen research subject.

The experts expressed satisfaction with the overall research structure of the doctoral programme and emphasised the robustness of the framework. Initial concerns about the seemingly low total number of credits allocated to the thesis (24) were allayed by a deeper understanding. It became clear that the importance of students' work on their dissertation is intricately integrated into the overall curriculum. Although the framework encourages active research engagement, the experts remain sceptical about the overall scientific core of the programme. From their perspective, a structured core of modules demonstrating a systematic approach to science and research methodology is essential.

As students are actively engaged in their doctoral research throughout all six semesters, the cumulative impact of their ongoing research activities contributes significantly to the overall programme. This perspective underscores the programme's commitment to fostering a continuous and immersive research experience, and justifies the perceived adequacy of the credits allocated.

The collaborative dynamic between students and their academic mentors, as well as the structured guidance provided by tutors and committee members, ensures that the research structure is both comprehensive and focused. The emphasis on the production of impactful results and participation in scholarly discourse aligns seamlessly with contemporary research standards.

In addition, the integration of subject-specific skills, management skills, mediation skills and an understanding of societal development reflects a holistic approach to research training. The continuous requirement for students to develop and refine their independent research work, culminating in the completion of a doctoral thesis, remains a cornerstone of the programme's success.

In light of these considerations, the team of experts commends the doctoral programme for its thoughtful and comprehensive approach to research training. The unique integration

of ongoing research activities throughout the curriculum underpins the perceived appropriateness of the total number of credits allocated to the dissertation and confirms the programme's commitment to producing skilled and impactful researchers. More consideration about the offered teaching modules and their integration in an overall research focus of the programme could contribute to increase its quality and visibility.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion D 1

UANL confirms that the PhD programme is currently undergoing changes and, as a result, is working on the entire concept of the study programme. The experts take note of that.

Criterion D1 is considered **not fulfilled** by the experts.

Criterion D 2 Duration and Credits

Evidence:

- Self-Assessment Report
- PhD Regulation
- Statistical data

Preliminary assessment and analysis of the experts:

The PhD programme in Natural Resources Management comprises six semesters or three academic years of full-time study, totalling 120 ECTS credits. The credit distribution per semester ranges from a minimum of 8 credits in the second semester to a maximum of 26 credits in the fifth semester. The main components contributing to the credit distribution are the final thesis (24 ECTS), the pre-doctoral examination (10 ECTS), two seminars of 12 ECTS each, one seminar of 8 ECTS, a research paper of 18 ECTS and four elective modules totalling 32 ECTS.

Although UANL has not formally documented the average duration of students' studies, the findings of the audit indicate that students usually graduate on time. The lack of reported problems with workload suggests that there are no prevalent challenges leading to extended study times. While the verbal confirmation from both students and programme coordinators is reassuring, the reviewers invite UANL to formally submit the relevant data. This submission would facilitate a more quantitative analysis and ensure a full understanding of the programme's performance metrics.

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

Based on the provided data, the experts do not anticipate any issues regarding the program's workload.

Criterion D2 is considered **fulfilled** by the experts.

Criterion D 3 Soft Skills and Mobility

Evidence:

- Self-Assessment Report
- Module Handbooks
- Audit Discussions

Preliminary assessment and analysis of the experts:

During the on-site visit, the experts learned that UANL actively supports student mobility among doctoral candidates, facilitating visits to both academic and non-academic institutions for enhanced skill development through additional training and research opportunities. The program's commitment to fostering mobility is evident in its comprehensive analysis of strengths and weaknesses, leading to the formulation of a strategic action plan.

While acknowledging the program's notable strength in providing students with opportunities for mobility, the experts' analysis reveals a corresponding weakness in the limited utilization of international exchanges. Notably, between 2017 and 2022, 48 students engaged in exchanges within Mexican higher education institutions, with only one student from the PhD programme participating in an international exchange at the Universitat Politecnica de Valencia (Spain).

Despite this discrepancy, the experts are overall satisfied with the existing opportunities for students to go abroad. However, they recommend further support measures, such as providing students with a curated list of partner universities offering applicable courses. This additional support aims to enhance the accessibility and appeal of international exchanges, ensuring a more widespread participation among doctoral students.

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

The university does not comment in this criterion.

Criterion D3 is considered **fulfilled** by the experts.

Criterion D 4 Supervision and Assessment

Evidence:

- Self-Assessment Report
- Audit Discussions

Preliminary assessment and analysis of the experts:

Each doctoral student is assigned a professor from the FFS as their main advisor. In addition, each student has a tutor who advises the student on general matters and assists them during their studies. The main supervisor is a member of the Academic Committee responsible for each student, which usually consists of four faculty members and sometimes a fifth member from outside the FFS.

Particular emphasis is placed on the supervision of PhD theses, a critical component of doctoral education. The supervisory process involves regular meetings between the student and the supervisor to discuss research progress, provide guidance, and offer constructive feedback.

Furthermore, UANL emphasizes the flexibility of the supervision model, accommodating individual student needs and preferences. It details the transparent communication channels established between students and supervisors, fostering a collaborative and supportive research environment.

In general, the experts felt that the services provided by the University and the Faculty in terms of guidance, supervision and advice were adequate. This view was generally confirmed by the doctoral students during the review meeting.

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

The university does not comment in this criterion.

Criterion D4 is considered **fulfilled** by the experts.

Criterion D 5 Infrastructure

Evidence:

- Self-Assessment Report
- On-Site Visit

Preliminary assessment and analysis of the experts:
With regard to the infrastructure, facilities and laboratory equipment of the Faculty, the experts praise the high quality of the facilities. In this context, it should be noted that the acquisition of major equipment and instruments to support the educational objectives is, in principle, regulated and closely monitored by the University. National research grants can also be a source of funding for the acquisition, maintenance and upgrading of major equipment. The laboratories used for the doctoral programme, which the experts encountered during the on-site visit, are generally considered to be adequate for the main research objective. In this context, the experts also welcomed the fact that PhD students have sufficient access to research literature, in particular to subject-related electronic books and journals.

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

The university does not comment in this criterion.

Criterion D5 is considered **fulfilled** by the experts.

Criterion D 6 Funding

Evidence:

- Self-Assessment Report
- Audit Discussions

Preliminary assessment and analysis of the experts:
Doctoral students have access to financial support for their mandatory scientific mobility through grants provided by the National Council for Humanities, Sciences, and Technologies. Furthermore, full-time students can avail themselves of scholarships designed to cover living expenses. Additionally, UANL offers lecturer research grants, contributing to the overall financial support framework.

These funded research projects serve a dual purpose, providing opportunities for both faculty members and students to disseminate knowledge. The results are often shared through publications in peer-reviewed journals or presentations at national and international conferences, workshops, or symposia.

The experts affirm the availability of funding for PhD scholarships, encompassing the costs associated with both research and studying. This comprehensive financial support system

enhances the academic experience and contributes to the dissemination of valuable research findings.

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

The university does not comment in this criterion.

Criterion D6 is considered **fulfilled** by the experts.

Criterion D 7 Quality Assurance

Evidence:

- Self-Assessment Report
- PhD Regulation
- PhD Theses

Preliminary assessment and analysis of the experts:
The "General Regulations of Graduate Studies", which is also available on the website, are intended to govern the rights and duties of applicants and postgraduate students, covering admission rules, study progress, completion of studies, and supervision and evaluation of the Doctoral Thesis.

Specific rules for the PhD programme were not documented. They should cover the contents of a PhD thesis, including the option of either monography or a cumulated dissertation, composed of 2-3 articles in international journals and a theory driven framework.

Based on the information gleaned from the SAR and the theses presented, additional information and regulation are required about the specification of content & scope (requirements for thesis structure, scope, number of papers etc.) and the formal proceeding (such as workload expectations, prerequisites for initiating the writing process, type of defense and the precise methodology for calculating the final grade etc.). This lack of specificity is reflected in the observed variations in scope and quality among the inspected theses.

During the audit, there was still some confusion as to whether the experts were reviewing individual papers, complete dissertations or summaries of graduates' work as a whole. This lack of clarity underlines the need for well-defined rules to ensure consistency and comparable quality across dissertations. Establishing clear guidelines will not only increase transparency, but will also contribute to a more standardised and equitable assessment process

and to the comparability of theses at an international level, ultimately improving the overall quality of theses.

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

Additionally, the SAR points to the CONACYT[6] evaluations that the PhD programme has undergone since its establishment in 2001 every five years. The experts acknowledge that the results of these evaluations have been deliberately fed into the process of continuous refinement of the programme, thus spurring a host of improvements (e.g. inclusion of a pre-doctoral examination, increase of graduation rate, reduction of average graduation time, increase of teacher mobility, follow-up programme for graduates). In this context, it is also considered worthwhile that the Faculty has conducted an internal evaluation of the PhD programme in 2022 and apparently worked on its critical findings ever since.

All in all, the experts come to the conclusion that the Faculty has convincingly demonstrated its awareness of the quality assurance dimension of the degree programme. It also has demonstrated, at least to a certain extent, how the collected data and information have been made use of in the constant refinement of the programme under review.

However, the experts find room for improvement in the quality assurance system, particularly in the realm of clearer and more detailed doctoral regulations. These regulations are crucial for fostering a more uniform and consistent quality standard for theses, as well as for managing expectations more transparently.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion D 7:

The university states that it is currently developing a doctoral regulation that will cover all the mentioned aspects. Therefore, experts are continuing to ask for what they believe will lead to a more uniform quality of doctoral theses.

Criterion D7 is considered **not fulfilled** by the experts.

E 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:

D 1. PhD Regulation/Thesis course description
D 2. Examples of cumulative thesis/papers
D 2. statistical data concerning the graduation rate, the drop-out rate, the examination failure rate and the duration of study

F Comment of the Higher Education Institution (07.02.2024)

The institution provided a detailed statement as well as the following additional documents:

- Statistics on student graduation, student exchange, drop-out rate, number of students choosing to graduate with a thesis

G Summary: Expert recommendations (21.02.2024)

Taking into account the additional information and the comments given by UANL, the experts come summarize their analysis and **final assessment** for the award of the seals as follows:

Assessment and analysis for the award of the EUR-ACE® Label:

A thorough evaluation has shown that the programme in question lacks the necessary engineering components as outlined in the ENAEE criteria. Despite the merits of the programme, its learning outcomes are not in line with the ENAEE standards due to a fundamental discrepancy in the interpretation of the term 'engineering'. Consequently, the experts concluded that the learning outcomes of the programme cannot be considered compatible with the ENAEE criteria due to this discrepancy.

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Natural Resources Management Engineering	With requirements for one year	30.09.2031	EUR-ACE®	Refusal
PhD Natural Resources Management	With requirements for one year	30.09.2031		

Requirements

For both programmes

A 1. (ASIIN 5) Ensure that students get a feedback on the results of those evaluations they were involved in.

A 2. (ASIIN 2) Develop and implement specific rules regarding disability compensation measures, illness and / or mitigating circumstances.

Requirements

For Ba Natural Resources Management Engineering

A 3. (ASIIN 2) A compulsory thesis or final project is required; no exceptions or alternatives should be allowed.

Requirements

For PhD Natural Resources Management

A 4. (ASIIN 1.3) Enhance the curriculum structure to ensure that students consistently engage with essential core modules, encompassing Scientific Modules, Statistics, Research Methodology, and Inter- and Trans-disciplinary methods.

A 5. (ASIIN 2 & D 7) Define comprehensive doctoral degree regulations specifying the structure, level, and requirements for the thesis, including the number of papers for cumulative graduation, workload expectations, thesis structure, defense format, required courses, and the calculation methodology for the final grade, considering the ratio between defense and theses components.

A 6. (ASIIN 2 & D7) Ensure uniformity in the scope of the thesis

A 7. (ASIIN 1.1 & 4.1) Provide all relevant information about the degree programme (intended learning outcomes, profile, curriculum, module description, academic guideline) on the webpage of the programme.

Recommendations

For both programmes

E 1. (ASIIN 1.1 & 1.3) It is recommended to enhance students' economic skills, legal and policy knowledge, and business planning capabilities.

E 2. (ASIIN 1.3) It is recommended to offer more courses in English.

E 3. (ASIIN 1.3) It is recommended to compile a list of exchange programmes and courses at partner universities to offer guidance for prospective students, facilitating student mobility.

E 4. (ASIIN 3.1) It is recommended to monitor the workload of the teaching staff.

E 5. (ASIIN 5) It is recommended to establish an annual procedure for engaging with stakeholders, such as an advisory board, and to institutionalize ongoing exchanges with the industry.

E 6. (ASIIN 1.4) It is recommended that the programmes be better promoted at university level.

Recommendations

For Ba Natural Resources Management Engineering

E 7. (ASIIN 1.3) Consider implementing study paths to facilitate elective selection, and consider redistributing elective modules with a focus on offering more in later stages and fewer at the programme's outset.

E 8. (ASIIN 5) It is recommended to undertake a comprehensive investigation into the factors contributing to the low graduation rate and implement targeted solutions to enhance student success.

H Comment of the Technical Committee 08 – Agriculture, Forestry and Food Sciences (27.02.2024)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the accreditation procedure and follows the assessment of the experts without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programme does not comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committees 8.

The Technical Committee 08 – Agriculture, Forestry and Food Sciences recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Natural Resources Management Engineering	With requirements for one year	30.09.2031	EUR-ACE®	Refusal

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
PhD Natural Resources Management	With requirements for one year	30.09.2031		

I Decision of the Accreditation Commission (22.03.2024)

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

The Accreditation Commission discusses the accreditation procedure and follows the assessment of the experts and the Technical Committee. However, it decides to make a small adjustment to A2 to make it more specific. It also decides to drop A6 as it considers that it is already covered by A5.

Assessment and analysis for the award of the EUR-ACE® Label:

The Accreidtation Commission deems that the intended learning outcomes of the degree programme does not comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committees 8.

The Accreditation Commission decides to award the following seals:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Natural Resources Management Engineering	With requirements for one year	30.09.2031	EUR-ACE®	Refusal
PhD Natural Resources Management	With requirements for one year	30.09.2031		

Appendix: Programme Learning Outcomes and Curricula

According to the Self-Assessment Report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor degree programme Natural Resources Management Engineering:

"I. General competences (UANL)

Instrumental competences

1. Apply autonomous learning strategies in the different levels and fields of knowledge that allow the students to make convenient and pertinent decisions in the personal, academic, and professional spheres.

2. Use logical, formal, mathematical, iconic, verbal, and non-verbal languages according to their stage of life, to understand, interpret and express ideas, feelings, theories, and currents of thought with an ecumenical approach.

3. Manage information and communication technologies as a tool for access to information and its transformation into knowledge, as well as for learning and collaborative work with cutting-edge techniques that allow them to participate constructively in society.

4. Master their mother tongue orally and in writing with correctness, pertinence, timeliness, and ethics, adapting their message to the situation or context, for the transmission of ideas and scientific findings.

5. Use logical, critical, creative, and proactive thinking to analyze natural and social phenomena that allow making pertinent decisions in their sphere of influence with social responsibility.

6. Use a second language, preferably English, with clarity and precision to communicate in everyday, academic, professional, and scientific contexts.

7. Develop inter, multi- and transdisciplinary academic and professional proposals in accordance with the best world practices to promote and consolidate collaborative work.

8. Use traditional and cutting-edge research methods and techniques for the development of their academic work, the exercise of their profession and the generation of knowledge.

Personal and social interaction skills

9. Maintain an attitude of commitment and respect towards the diversity of social and cultural practices that reaffirm the principle of integration in the local, national, and international context to promote peaceful coexistence environments.

10. Intervene in the face of the challenges of contemporary society locally and globally with a critical attitude and human, academic and professional commitment to contribute to consolidate the general welfare and sustainable development. 5

11. Practice the values promoted by the UANL: truth, equity, honesty, freedom, solidarity, respect for life and others, peace, respect for nature, integrity, ethical behavior, and justice, in their personal and professional environment to contribute to build a sustainable society.

Integrating competencies

12. Build innovative proposals based on the holistic understanding of reality to contribute to overcome the challenges of the interdependent global environment.

13. Assume leadership committed to social and professional needs to promote relevant social change.

14. Resolve personal and social conflicts, in accordance with specific techniques in the academic field and their profession for appropriate decision making.

15. Achieve the adaptability required by the uncertain professional social environments of our time to create better living conditions.

II. Specific competences (BScNRME Program)

1. Development of studies on populations of wild plants and animals by means of continuous monitoring techniques, application of mortality tables, growth prediction, etc., which make it possible to identify the present and future state of wild populations for the benefit of their management, conservation, and use.

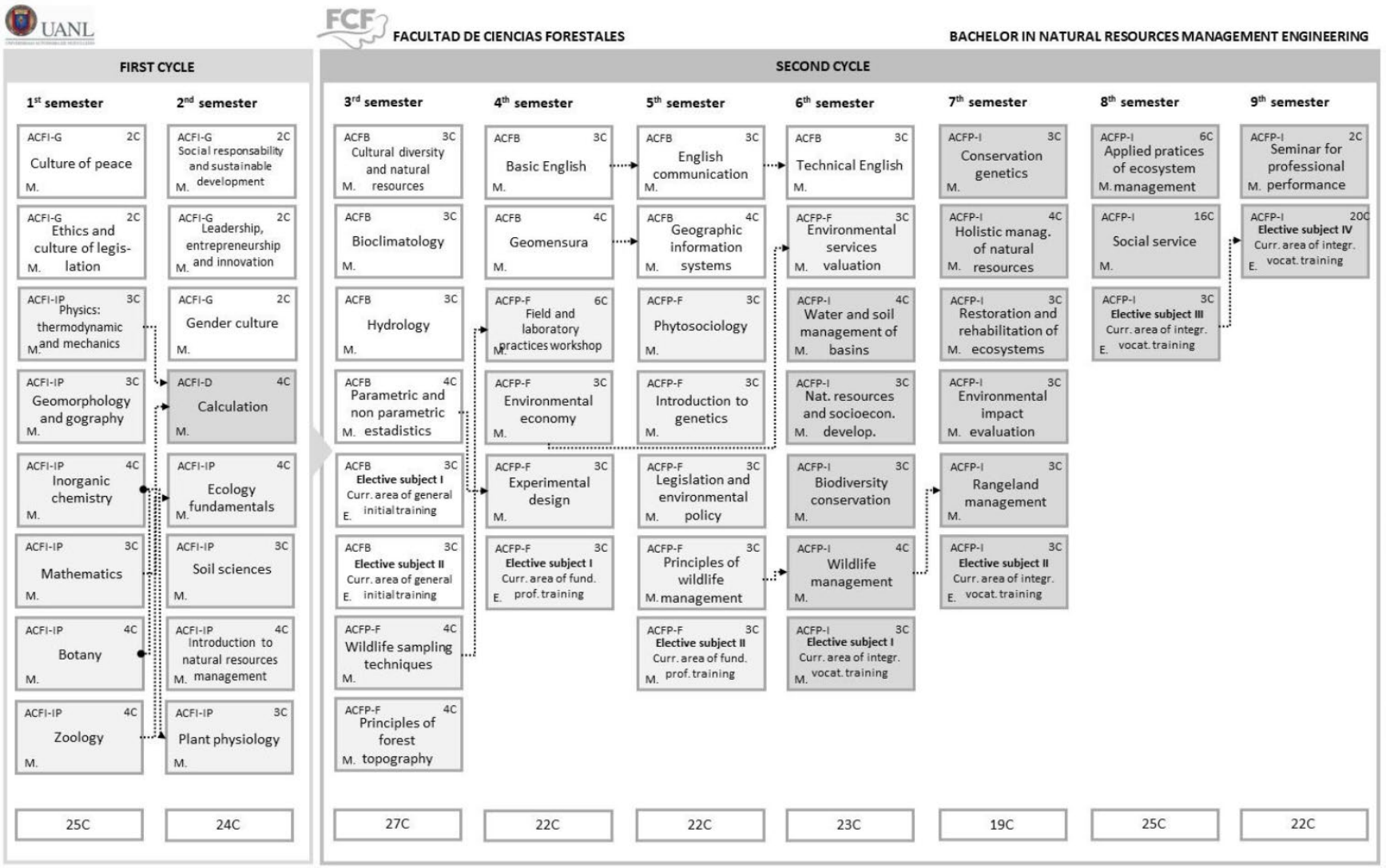
2. Elaboration of programs for the management and use of natural resources, considering the biotic, abiotic, and social factors of the region for socio-economic development and ensuring environmental services in the future.

3. Review the extraction, development, and use of natural resources by applying current environmental legislation to ensure sustainable use for the benefit of nature and society.

4. Develop innovative natural resource management, research, connectivity, and restoration plans using biotic, abiotic, and socioeconomic information to ensure biodiversity and prevent desertification.

5. Assess critical or endangered ecosystems by applying biodiversity, desertification, threshold, and population indices to maintain ecological processes and ecosystem services."

The following **curriculum** is presented:



According to the Self-Assessment Report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the PhD degree programme Natural Resources Management:

"I. General competences (UANL)

Instrumental competences

1. Apply autonomous learning strategies in the different levels and fields of knowledge that allow the students to make convenient and pertinent decisions in the personal, academic, and professional spheres.

2. Use logical, formal, mathematical, iconic, verbal, and non-verbal languages according to their stage of life, to understand, interpret and express ideas, feelings, theories, and currents of thought with an ecumenical approach.

3. Manage information and communication technologies as a tool for access to information and its transformation into knowledge, as well as for learning and collaborative work with cutting-edge techniques that allow them to participate constructively in society.

4. Master their mother tongue orally and in writing with correctness, pertinence, timeliness, and ethics, adapting their message to the situation or context, for the transmission of ideas and scientific findings.

5. Use logical, critical, creative, and proactive thinking to analyze natural and social phenomena that allow making pertinent decisions in their sphere of influence with social responsibility.

6. Use a second language, preferably English, with clarity and precision to communicate in everyday, academic, professional, and scientific contexts.

7. Develop inter, multi- and transdisciplinary academic and professional proposals in accordance with the best world practices to promote and consolidate collaborative work.

8. Use traditional and cutting-edge research methods and techniques for the development of their academic work, the exercise of their profession and the generation of knowledge.

Personal and social interaction skills

9. Maintain an attitude of commitment and respect towards the diversity of social and cultural practices that reaffirm the principle of integration in the local, national, and international context to promote peaceful coexistence environments.

10. Intervene in the face of the challenges of contemporary society locally and globally with a critical attitude and human, academic and professional commitment to contribute to consolidate the general welfare and sustainable development. 20

11. Practice the values promoted by the UANL: truth, equity, honesty, freedom, solidarity, respect for life and others, peace, respect for nature, integrity, ethical behavior, and justice, in their personal and professional environment to contribute to build a sustainable society.

Integrating competencies

12. Build innovative proposals based on the holistic understanding of reality to contribute to overcome the challenges of the interdependent global environment.

13. Assume leadership committed to social and professional needs to promote relevant social change.

14. Resolve personal and social conflicts, in accordance with specific techniques in the academic field and their profession for appropriate decision making.

15. Achieve the adaptability required by the uncertain professional social environments of our time to create better living conditions.

II. Specific competences (DScNRM Program)

1. Integrates frontier knowledge in a specific field of work or study in a multidisciplinary manner, respecting cultural diversity for the benefit of society.

2. Uses state-of-the-art methodologies to quantify and classify natural resources based on the scientific method to support decision-making on the sustainable use of natural resources.

3. Proposes innovative actions for the management of natural resources considering social, ecological and/or economic aspects to improve the management and conservation of natural resources.

4. Generates research results to solve problems or improve natural resource management techniques with an integral vision in technology transfer to influence social development by advancing in the frontier of knowledge.

5. Manages and applies management plans for the sustainable use of natural resources considering social, ecological and economic aspects to contribute to the improvement of the economy of the rural sector, without detriment of natural resources."

The following **curriculum** is presented:

Doctoral program in Sciences with Orientation in Natural Resources Management				
Lerning unit	**Code**	**Credits**	Workload semester guided/self-managed	Workload week guided/self-managed
First Semester				
Elective module I		8	80/160	4/8
Seminar I		12	120/240	6/12
Second Semester				
Elective module II		8	80/160	4/8
Third Semester				
Elective module III		8	80/160	4/8
Seminar II		12	120/240	6/12
Fourth Semester				
Elective module IV		8	80/160	4/8
Pre-doctoral examination		10	100/200	5/10
Fitht Semester				
Research paper		18	20/520	1/26
Seminar III		8	120/240	6/12
Sixth Semester				
Thesis		24	20/700	1/35
Total		**120**	**820/2780**	