

“IMT PROFESSIONAL INTERNSHIPS”

LEARNING ACHIEVEMENTS

A. GENERAL LEARNING OBJECTIVE

To carry out professional activities according to the profile of the graduate of the Mechatronics Engineering program to strengthen the indispensable outcomes in their profession through the insertion in spaces according to their future work field.

B. TOPICS

PROFESSIONAL OUTCOMES TO WHICH THE TRAINING AREA CONTRIBUTES

Specific professional outcomes	<p>The professional outcomes that are promoted by professional practices may include:</p> <ul style="list-style-type: none"> • Ability to apply scientific and technological knowledge to solve mechatronic engineering problems under a systemic approach. • Apply and adapt technology • Design or installation of products using technology • Conduct an engineering project • Assure the reliability and quality of an operation • Assume responsibility as an expert • Contribute to the advancement of technology • Understanding of the industrial or business context • Handling of current modeling, analysis and synthesis tools (such as CAD, CAE, CAM, ICT) applicable in the field • Doing research
Emphasis professional outcomes	Not applied

SCIENTIFIC/PROFESSIONAL KNOWLEDGE, SKILLS AND ABILITIES

The professional performance, knowledge and skills promoted by this training space are:

Learning outcomes to be achieved by the student in this training space	
Performance	Not applied
Knowledge	<p>Knowledge is variable and depends on the type of company where the internship is carried out, knowledge of the basic or transversal area:</p> <ul style="list-style-type: none"> • Overview of mechatronics engineering
Skills	<p>Skills are variable and depend on the type of company where the internship is carried out.</p> <p>Compulsory area skills:</p> <ul style="list-style-type: none"> • To be able to create, innovate, assimilate and adapt technology in the field of mechatronic engineering. • Create, innovate, assimilate and adapt technology in the field of mechatronic engineering.

	<ul style="list-style-type: none"> • Predictive; ability to plan, cooperate, know, inquire, act, judge, imagine, articulate, appraise and choose. • Have the ability to program and operate computer equipment, as well as to handle and interpret computer packages used in their field. <p>Basic or traversal skills:</p> <ul style="list-style-type: none"> • To be able to apply the knowledge of basic sciences and mechatronic engineering to the integral solution of concrete problems. • Have the ability to observe, interpret and model natural phenomena. • Analyze and synthesize; critically understand the scientific method; • Have the ability to express themselves correctly and effectively in oral, written and graphic form. • Ability to handle and apply computer programs (word processing, technical drawing, spreadsheet, electronic presentations); • Ability to relate and make decisions; information management. • Possess creativity in problem solving. • Generate and interpret qualitative and quantitative data and information generated by systematic and analytical observation or experimentally in the industry or laboratory. <p>Skills in the elective area:</p> <ul style="list-style-type: none"> • Have the ability to adapt to changes in living and working conditions specific to the profession. • To know the society in which he/she will develop his/her activities, as well as its resources and needs. • To have mastery of technical languages and the ability to disseminate through different media. • Management skills.
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C. UASLP GRADUATES: TRAVERSAL SKILLS AND ABILITIES

UASLP Graduate Profile	Desempeños y habilidades transversales que promueve el espacio de formación
Professional and learning autonomy	i.2 Selects reliable sources of information. j.2 Recognizes contemporary issues and their impact in the context of the discipline.
Collaborative work skills	d.1 Contributes to teamwork. d.2 Takes responsibility. d.3 Values other team members. l.1. Expresses willingness to assume leadership responsibility. l.2. Demonstrates the ability to identify roles, responsibilities, and expectations for leading a team.
Communication skills in Spanish and other languages	c.4 Prepares the final design report along with design calculations, justifying the solution through a cost-benefit analysis. g.1 Has organized written communication and is consistent with the central message identified in the introduction, where the main points are linked with transitions and a conclusion. The student conveys consistent information. g.2 Effectively employs modern presentation tools, such as audio, video, etc., in an effective manner. g.3 Uses correct grammar and rich vocabulary.
Development of creative scientific, professional and/or social projects.	This outcome in engineering is considered as specific professional, the performances are already integrated within this training space.
Social responsibility and ethical reflection	c.3 Identifies and evaluates design constraints (design, economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability), establishing criteria for acceptability and appropriateness of solutions. f.1. Correctly identifies the facts and ethical issue related to engineering.

	f.2. Differentiates concepts of ethics and social responsibility and explains their impact on the profession. h.1 Implements assessment tools to reveal conflicting levels of social values. h.3 Implements measurement tools to identify environmental problems.
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GENERAL STRUCTURE AND SUMMATIVE EVALUATION

D. GENERAL TEACHING PLANNING

During the course the student will acquire experience in developing professional activities outside the university spaces. The activities will be developed in the productive and service sectors and these are different for each student. The academic professor will approve the internships, checking that they promote the performance indicators of the professional and specific competencies of the graduate. The total hours of the course are 240 hours. The student must submit a report every 80 hours of activity and a final report.

#	Name of Unit or Training Phase	Learning Objective of the Unit or Phase	Specific educational content (performance, skills, knowledge)
1.	Internships (240 h)	To develop professional activities according to the MTE program graduate profile to reinforce outcomes of a mechatronics engineer by working at spaces aligned to the job field.	Specific educational content: In this training space, student's specific and traversal outcomes will be reinforced. Learning activities: Development of professional activities in a company of the productive sector of services and/or services.

E. EVALUATION

Table 1 shows the proposed summative evaluation of the training space. According to it, students will receive an ordinary grade. This subject reports only one final grade and may appear in the student's transcript with a numerical grade.

Table 1

#	Evaluation timing	Proposal for summative learning evaluation	Percentage of evaluation
1.	At 80 hours of professional activity.	A report of the activity to be elaborated according to the guidelines and procedures of the training space. It will be evaluated according to the rubric.	Required
2.	At 160 hours of professional activity.	A report of the activity to be elaborated according to the guidelines and procedures of the training space. It will be evaluated according to the rubric.	Required
3.	At 240 hours of professional activity.	A report of the activity to be elaborated according to the guidelines and procedures of the training space. It will be evaluated according to the rubric.	30%
4.	Evaluation by the external consultant	Evaluation of the student's performance during the internship. It will be evaluated according to the program's own instrument.	70%
Ordinary final evaluation		The ordinary grade will be the sum of all the evaluation points referred to in Table 1) with a total evaluation value of 100%. In order for the student to receive his or her ordinary grade, it is indispensable that he or she performs a self-evaluation of his or her performance in the professional practices.	
Extraordinary evaluation		This course does not include an Extraordinary Exam.	
Title evaluation		This course does not include a Proficiency Examination.	

Regularization evaluation	This course does not include a regularization exam.
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F. BIBLIOGRAPHIC AND DIGITAL RESOURCES

MAIN BOOKS

Due to the flexible and practical nature of the course, the bibliographic resources to be used are defined depending on the place and subject of the internship that each student performs.

CURRICULAR AND SCHOOL DATA

Area	Line	Credit type	Type of training area	Delivery language	Delivery method
Intensification	N/A	Elective	Practice	Spanish	On-site

CREDITS

According to the official curricular proposal, the school data of the training space are:

Levels	Number of weeks	Hours of theory per week	Hours of practice per week	Hours of autonomous student work per week	Appropriations per Agreement 11/17/17 (formerly 279)
7° a 10°	Within a minimum of 6, and a maximum of 12	-	-	-	15

240 hours of professional practice are required

REQUIREMENTS TO ATTEND THE TRAINING PROGRAM

The school requirements for the training space are noted below, if necessary.

#	REQUIREMENTS
1.	To have approved 315 credits and to have accredited the training spaces of level VI and previous levels.

EQUIVALENCIES OF THE TRAINING AREA

The equivalences of the training space with spaces of previous educational programs are indicated below, if necessary:

EQUIVALENCIES
There are no equivalent training spaces.

INTEROPERABILITY

This training space is shared with other educational programs and/or academic entities:

ACADEMIC INSTITUTION AND EDUCATIONAL PROGRAMS
N/A

OTHER FORMS OF ACCREDITATION

- This training space can be accredited through the presentation of a document that certifies that the student has already acquired the necessary knowledge: **No**

- This training space can be accredited through an exam that certifies that the student has already acquired the necessary learning: **No**

TRAINING OPTIONS

This training space is part of the following options:

Training option	Yes / No
Bachelor's Degree	Si
Dual training program	No
Higher Technical University (TSU)	No
Executive Degree	No
Partial accreditation option	No
Residency or internship	No

TEACHER PROFILE

The teacher who is responsible for grading this subject is the full-time professor who serves as the student's teacher and is familiar with the specific transversal professional competencies that are fostered in the students of the program.

Degree and academic experience

- Mechatronics Engineering or related engineering with Master or Doctorate degree.

Training and professional and work experience

- He/she should have knowledge of the labor field of the mechatronics engineering graduate.

Teacher role

- Will have the task of exposing the guidelines and procedure to accredit the training space. Will follow up on the practical activities performed by the student by reviewing the reports. Will issue a grade of the student's report.

The external consultant

- It will be the person from the company who is in charge of the student's activities. He/she will be in charge of signing the final report after review by the academic tutor. He/she must make a final evaluation of the student on performance indicators of the student outcomes.

MAXIMUM AND MINIMUM NUMBER OF STUDENTS PER GROUP

- Maximum number of students per group to guarantee academic, pedagogical and financial viability: 10.
- Minimum number of students per group to guarantee academic, pedagogical and financial viability: 5..

TYPE OF PROPOSAL

- It is a new version of a program that is presented as a curricular adjustment or content update within the framework of an existing educational program.

PROCESSORS AND REVIEWERS

Program processors	Reviewers of this program
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