[GJR104] PRODUCTION EQUIPMENT AND AUTOMATED SYSTEMS ENGINEERING III

GENERAL INFORMATION

Studies	DEGREE IN MECHATRONICS ENGINEERING			**Subject**	?
Semester	1	**Course**	4	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2020	**Modality**	Adapted Face-to-face	**Language**	?
Credits	12	**Hours/week**	15.56	**Total hours**	280 class hours + 20 non-class hours = **300 total hours**

PROFESSORS

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REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	*(No previous knowledge required)*

SKILLS

VERIFICA SKILLS

SPECIFIC

GJCE20 - Analysing, considering and assessing mechatronic problems in equipment or production processes and automated systems, proposing the most suitable alternatives, assuming responsibilities, taking part in different work teams and generating the appropriate technical documentation, arguing and justifying any conclusions and solutions presented and transmitting information, ideas, problems and solutions to a specialised and non-specialised public

GENERAL

GJCG01 - To be able to take the initiative in problem solving, decision making, creativity, critical thinking, effective communication and the transfer of knowledge and skills in the field of mechatronics engineering

GJCG02 - To be able to do their job in multilingual, multidisciplinary environments.

GJCG03 - Addressing and optimising activities of assembly, commissioning, assistance and maintenance of facilities, machinery, and industrial mechatronic systems

GJCG04 - Managing technically teams and people in activities of assembly, commissioning, assistance and maintenance of facilities, machinery and industrial systems, through the methodology of administration by projects for the effective execution of planning

GJCG06 - Implement and materialize projects of automation and control of equipment, processes and flexible industrial systems, through the integration of hardware and software in order to optimize the operation of the different units that make up the system to meet the needs of the productive sector

CROSS

GJCTR1 - To be able to do their job in cooperative, participatory environments, with awareness of social responsibility.

GJCTR2 - To be able to understand and apply knowledge to problem solving in complex work situations or specialised and professional environments calling for creative and innovative ideas, using self-developed arguments and procedures;

BASIC

G_CB1 - To have proven to understand and have knowledge in a field of study based on general secondary education at a level found in advanced textbooks and including concepts at the forefront of their field of study.

G_CB2 - To be able to apply knowledge to occupational or professional tasks; have the necessary skills to pose and defend arguments, and to solve problems within their field of study

G_CB4 - To be able to communicate information, ideas, problems and solutions to both expert and lay audiences

G_CB5 - To have developed learning abilities required to embark on subsequent studies with a high level of autonomy.

LEARNING RESULTS

RGJ413 **They evaluate situations and propose and apply methods, techniques, regulations, tools, etc., specific to the profession of Mechatronic Engineer in an unknown industrial context.**

LEARNING ACTIVITIES	CH	NCH	TH
Carrying out work experience in real environments and writing the corresponding report	180 h.		180 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Observation (technical capacity, attitude and participation)	100%	Observation of student participation and attitude in the proposed training activities **Comments:** Continuous assessment. Retake is not foreseen

CH - Class hours: 180 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 180 h.

RGJ414 **They assume responsibilities in the team, organizing and planning the tasks to be developed, dealing with contingencies and encouraging the participation of its members.**

LEARNING ACTIVITIES	CH	NCH	TH
Tutoring sessions and monitoring of training activities	10 h.		10 h.
Carrying out work experience in real environments and writing the corresponding report	20 h.		20 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Observation (technical capacity, attitude and participation)	100%	Observation of student participation and attitude in the proposed training activities **Comments:** Continuous assessment. Retake is not foreseen.

CH - Class hours: 30 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 30 h.

RGJ415 **They analyze the variables involved in the problem and propose actions for a stable situation.**

LEARNING ACTIVITIES	CH	NCH	TH
Tutoring sessions and monitoring of training activities	10 h.		10 h.
Carrying out work experience in real environments and writing the corresponding report	20 h.		20 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Observation (technical capacity, attitude and participation)	100%	Observation of student participation and attitude in the proposed training activities **Comments:** Continuous assessment. Retake is not foreseen

CH - Class hours: 30 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 30 h.

RGJ416 **They define the problem, the development of the solution, as well as the conclusions in an effective way, arguing and justifying each of them, making a correct use of the language, in writing.**

LEARNING ACTIVITIES	CH	NCH	TH

Carrying out work experience in real environments and writing the corresponding report	20 h.	10 h.	30 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices **Comments:** Continuous assessment. Retake is not foreseen

CH - Class hours: 20 h.
NCH - Non-class hours: 10 h.
TH - Total hours: 30 h.

RGJ417 They define the problem, the development of the solution, as well as the conclusions in an effective way, arguing and justifying each one of them, and making a correct use of the language, orally.

LEARNING ACTIVITIES	CH	NCH	TH
Carrying out work experience in real environments and writing the corresponding report	20 h.	10 h.	30 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	100%	Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices **Comments:** Evaluación continua. No se prevé recuperación

CH - Class hours: 20 h.
NCH - Non-class hours: 10 h.
TH - Total hours: 30 h.

CONTENTS

The contents on which the student will develop their activities will be determined by the type and active ty of the company and / or the technical department in which the student is located.
The contents will be based on one or more of the following areas:

* Techniques for assembling production equipment: mechanical elements (transmission elements, guiding elements, sealing elements, etc.) in new contexts.
* Advanced manufacturing process systems: forming processes, machining processes, machining, welding
* Automation applications and programming of line parameters, equipment or manufacturing processes.
* Advanced programming of automated systems
* Advanced tuning of equipment and production processes
* Measurement, testing and verification of components / subsets / mechanical sets or parameters on production processes in autonomy: tools, techniques and elements of measurement / monitoring / testing.
* Diagnosis of malfunctions of the productive equipments of mechanisms and complex systems.
* Diagnosis, verification and troubleshooting of complex automated systems
* Advanced project management and working methods of company departments
* Occupational health and safety, and environmental protection

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Topic related web quires	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk.pl?grupo=MECATRONICA41&ejecuta=25&_ST
Technical articles	
Moodle Platform	
Material and training resources in the company for the development of the internship	
Workplace in the company for the development of the internship	
Support from company and the academic tutors of the internship	