

COURSE SYLLABUS
Internship in a research center or lab
2019-2020
UP.02.DSI.4.A.21.26-AI

1. Program information

1.1	Higher education institution	<i>University of Pitesti</i>
1.2	Faculty	<i>Mechanics and Technology</i>
1.3	Department	<i>Automobiles and Transport</i>
1.4	Field of studies	<i>Automotive Engineering</i>
1.5	Level of education	<i>Master</i>
1.6	Program / Qualification	<i>Automotive Engineering for Sustainable Mobility</i>

2. Discipline information

2.1	Name of discipline					Internship in a research center or lab					
2.2	Instructor of the lecture/course activities					Adrian CLENCI					
2.3	Instructor of the lab activities					Adrian CLENCI					
2.4	Year of the studies	II	2.5	Semester	II	2.6	Type of evaluation	V ¹	2.7	The discipline regime	A, DSI ²

3. Estimated total time

3.1	Number of hours per week	16	3.2	lecture	-	3.3	project	16
3.4	Total hours of the Academic Syllabus	224	3.5	lecture	-	3.6	project	224
Distribution of the time allocated to the individual study (= 3.9 x 25 - 3.4 = 10 x 25 - 224 = 26 hours)								ore
Study by handbook, course support, bibliography and notes								3
Additional documentation in the library, on specialized electronic platforms and in the field								3
Preparation of report								12
Tutorial								-
Examinations								8
Research work								-
3.7	Total hours of individual study	26						
3.8	Total hours per semester (= 3.4 + 3.7)	250						
3.9	Number of credits allocated to the discipline	10						

4. Prerequisites (where applicable)

4.1	Curriculum	-
4.2	Skills	<i>Advanced mathematics, Applied Mechanics, Numerical methods, Vehicle dynamics, Applied Thermodynamics, Electronics and automatic systems, Automobile's construction, Thermal engines, Transmissions and alternative drivetrains, Vehicle Mechatronics, Materials, Vehicle reliability, Simulation of vehicles</i>

5. Conditions (where applicable)

5.1	for the lecture/course	-
5.2	for the lab	<i>lab equipments, test bench, computer</i>

6. Skills

Professional skills	<i>CP1 - innovative design and design with the purpose of producing products, technologies that ensure sustainable (sustainable) mobility</i> <i>CP2 - numerical modeling and simulation of the different components of the vehicles</i> <i>CP3 - calibration of different vehicle subsystems for energy optimization purposes</i> <i>CP4 - experimental research with the purpose of validating the prototypes resulting from the activities of conception, design, modeling and numerical simulation</i>
transversal skills	<i>CT1 - documentation and use of information</i> <i>CT2 - professional communication</i> <i>CT3 - project management</i> <i>CT4 - responsible execution of professional tasks under autonomous conditions</i> <i>CT5 - carrying out activities exploiting the ideas of</i>

7. Discipline goal(s)

7.1	The main goal of the discipline	<i>Development of competences in the field of Automotive Engineering</i>
7.2	Specific goal(s)	<i>At the end of this course, the student should be able to discuss on this particular subject:</i> - <i>to elaborate a literature review specific to the internship field;</i> - <i>identify the current state of knowledge on the subject under investigation,</i> - <i>to develop the research directions of the research stage, setting the purpose and its planning,</i> - <i>to develop the research topic taking into consideration the discussions / tips with the tutor</i> - <i>to issue the final conclusions of the subject treated in the research stage</i>

¹ V – Verification

² A – by choice; DSI – synthesis discipline

8. Contents

7.1. Project		No. of hours	Teaching methods	Remarks Resources used
1	Defining the research topic	4	<ul style="list-style-type: none"> - Lecture - Exposure with support material - Explanation - Description and exemplification - The heuristic conversation - Debating - Case study - Exercising - Experiment - Computer aided learning 	Board, sketches, tables, graphs, sheets, photos, models, video projector, computer, internet, lab equipment
2	Literature review for the established topic	32		
3	Take charge of the internship place/lab apparatus	16		
4	Development of the research work	140		
5	Personal contributions outline	16		
6	Results and final conclusions	16		
TOTAL HOURS		224		

Minimal bibliography:

- It will be established by each tutor, differentiated, according to the topic of the internship work.

9. Corroboration the contents of the discipline with the expectations of the epistemic community representatives, professional associations and employers in the field related to the program

The skills acquired in this discipline allow the graduates to work in the field of automotive engineering: design, calibration, test, homologation of thermal engines and automobiles. Being a specialized discipline, its purpose is training students, especially for engineering centers (design, research, development, innovation).

10. Evaluation

Activity type	10.1 Evaluation Criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Research Stage	Active involvement during the activities	Questions / answers. Individual discussions. Weekly recording	40%
	Good understanding of the treated subjects and the ability to analyze and synthesize	Oral discussions	50%
	Correct resolution of the research report. Quality of presentation	Oral presentation. Individual discussions	10%
10.5 Minimum standard of performance	Achieving at least 50% of the evaluation criteria (§10.4)		

Date (of filling)
17.09.2019

University supervisor/coordinator
Professor **Adrian CLENCI**

Date (of approval)
18.09.2019

Director of supplying department
Professor **Adrian CLENCI**

Director of beneficiary department
Professor **Adrian CLENCI**