Course Title	Major Project				
Course Code	AU406				
Course Type	Compulsory				
Level	BSc (Level 1)				
Year / Semester	4th Year / 8th Semester				
Teacher's Name	Any department staff				
ECTS	6	Lectures / week	-	Laboratories/week	-
Course Purpose	The course purpose is for the students to develop the skills needed for the development of a successful final year project. Upon completion of this course the students will be able to apply research and writing techniques. Furthermore, they will have a first insight on how project work is performed in professional and research level and gain first experience in problems' resolving, following time schedule and collaborating and interacting with project participants, i.e. their supervisors and lab assistants. The major projects aims finally to prepare students to undertake project work in their future professional or academic environment.				
Learning Outcomes	**By the end of the course, students must be able to:** 1. Identify and describe clearly an existing engineering problem 2. Perform extensive literature review in order to find what has been done on the subject by other researchers and professionals 3. Develop, propose and evaluate different solutions which are suitable for the resolving the identified engineering challenge 4. Identify the solution which will provide valuable results to the existing engineering problem by introducing an innovation. 5. Organise the project in distinct Work Packages which contain different Tasks in a timetable, towards the successful completion of the project 6. Execute the theoretical and experimental work according to the timetable and collect rendered results in form of pictures, probes, graphs, drafts, CAD models, tables, scripts or routines, simulations results and prototypes depending on the problem formulation. 7. Evaluate, appraise and discuss the rendered results in detail. 8. Compose the final report presenting all the theoretical and experimental work, including the methodology used, the results, the final conclusions and future suggestions.				
Prerequisites	**AU410**		Corequisites	**None**	

Course Content	• Definition of a selected engineering problem to be resolved • Performance of extensive literature review related to the selected project • Performance of brainstorming and creation of alternative solutions using specific tools such as CAD programmes, lab equipment and machinery, simulation software etc. • Evaluation of alternative solutions and proposal of most favourable one providing all necessary details. • Synthesis and application of different principles of Automotive Engineering to round up the presented design solution or analysis • Organisation of the project in distinct Work Packages containing the defined tasks in a timetable towards the successful completion of the project • Execution of theoretical and experimental work according to the timetable and collection of accomplished results. • Writing of the final report presenting all the theoretical and experimental work. • Oral presentation of the major project
Teaching Methodology	The major project is delivered by students in close collaboration with their advisors. Students and supervisors perform regular meeting during the whole course of the semester to discuss the project's development and perform the planned experimental, design or simulation analyses depending on the nature and topic of the agreed project. Supervisors will guide the candidates and provide any necessary knowledge, literature and tools. Additionally supervisors will supply the student with existing results, sketches or models related their planned work and discuss them in detail. Furthermore, supervisors will support the student on the timely submission of their major project and the quality of their written work. Finally, the major project's rendered results will be presented orally to a department's committee consisting of the supervisor and two additional faculty members.
Bibliography	1. Writing up your university assignments and research projects: A practical handbook, N. Murrey, G. Hughes, 2008. 2. Carrie Hannigan, Carrie Wells, Carolyn Stevenson, Tanya Peterson, Diane Martinez, "Technical Writing: A Resource for Technical Writers at All Levels", Kaplan Publishing, 2008. 3. Doing Your Early Years Research Project: A Step by Step Guide, G. Roberts-Holmes, Paul Chapman Publishing, 2005 4. Any other books, papers, patents and journals related to the project

Assessment	The assessment regards the overall performance of the student during his major projects based on the following evaluation criteria: 1. Effort: Time spent on project 2. Main body of the project: The main idea is supported by extensive, accurate and appropriate details 3. Conclusion and results: Are the final results and conclusions well defined and analytically explained? 4. Writing skills: Is the writing text adequate? English language, text format, pictures, drawing, diagrams 5. Enthusiastic: The student was interested about his work during the whole period 6. Learning outcome: The scientific and professional skill of the student were increased during the elaboration of the project? 7. Quality of presentation: Organization of the written work. Main points presented clearly, discussed in detailed and summarized. 8. Overall quality: What is the overall quality of the project? 9. Oral presentation: At what degree the candidate convinced the audience for his/her work's scientific value? The project's overall assessment is calculated based on the above criteria carrying equal weight (see also Annex 8).
Language	**English**