

ANNEX 2 – COURSE DESCRIPTION

Course Title	Research Techniques for Thesis Preparation				
Course Code	AU 410				
Course Type	Compulsory				
Level	BSc (Level 1)				
Year / Semester	4 th Year / 7 th Semester				
Teacher's Name	Dr. George Karagiorgis				
ECTS	6	Lectures / week	3	Laboratories/week	
Course Purpose	<p>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, students will define their project topic and formulate the automotive engineering challenge which will be studied and investigated. Under the lecturer's guidance students will define the different tasks and tools required to fulfil their project's aims with the purpose to increase the quality and scientific presentation and writing of their work.</p>				
Learning Outcomes	<p>By the end of the course, students must be able to:</p> <ol style="list-style-type: none"> 1. Distinguish the research areas and topics of interest of the department in the field of automotive engineering. 2. Choose a project topic by defining its topic in detail. 3. Clarify the overall requirements of a successful project. 4. Collect information on the topic from existing literature which will form the foundation of the senior project. 5. Apply the Departmental Style Guide and the information it conveys. Use the Style Guide effectively. 6. Construct a preliminary report based on the literature survey conducted and on the methodology evaluated 				
Prerequisites	None		Corequisites	None	
Course Content	<ul style="list-style-type: none"> • Research topics: Various research topics of the Mechanical engineering department in the field of automotive engineering are available. These are correlated with the expertise of the department's members and in particular they include amongst others the area of vehicle design and aerodynamics, internal combustion engines design and analysis, automotive powertrains and suspension systems, automotive electronics and diagnostics, automotive materials, vehicle structures' manufacturing and joining techniques, crashworthiness and road accident reconstruction etc. Various of these aspects are approached either in close collaboration with industrial partners or are related with 				

	<p>department members' research work. It is worth highlighting that different thesis topics have been embodied in Frederick University's Formula Student project. Thus, students have the opportunity to work on different areas of sport vehicle design and their work and results can be implemented on a real sport vehicle which participate in European formula students races.</p> <ul style="list-style-type: none"> • Report Elements: Plagiarism, referencing, writing style, literature reviewing, content structure, figures and tables and numbering systems • Report structure: Components of a report. The Departmental Style Guide. St • Literature survey: Disciplines in different areas of automotive engineering. Literature survey on a selected topic to provide foundations of the senior project.
Teaching Methodology	<p>The course is delivered to the students by means of lectures, discussions and debates conducted with the help of computer presentations. Students will be urged to decide upon a certain topic related to automotive engineering and contact a project supervisor, a faculty of the department who will remain their supervisor throughout the duration of the senior project as well.</p> <p>Different project topics will be available to students to choose from, however, students are encouraged to propose a topic of their preference from the field of automotive engineering and arrange his/her supervision with a member of staff with whom he would discuss further details. In addition to the support provided by the lecturer, the department's senior year project coordinator further guides the students in choosing the appropriate supervisor/subject area.</p> <p>Examples of previous successful projects will be shown to students. Students will be guided through the procedure for completing a project, will be provided with tips and insides and will be introduced to proper and efficient use of MS office programs as well as further software tools related to the chosen topic.</p>
Bibliography	<ol style="list-style-type: none"> 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
Assessment	<ul style="list-style-type: none"> • Report 50% • Presentation 50%
Language	English