COURSE INFORMATION FORM	
Faculty/ Institute	Faculty of Fine Arts and Architecture
Department	Department of Industrial Design
Course Code	EUT 318
Course Title	Computer Aided Product Design III
Language	English
Program	Industrial Design Undergraduate Program
Course Type	Must
Course Level	
Course ECTS	2
Prerequisites	None
Course Catalogue Description	This course includes the topics that would provide a basis for computer aided design and manufacturing softwares that is required for industrial design discipline. The main topics which the course focuses on are the modeling, analysis and preparation of design ideas for manufacturing via computer aided design softwares. The basics principles of 3D modeling softwares and their contribution to both designers and industrial design discipline.
Course Objectives	The main aim of the course is to help students gain the necessary knowledge on computer aided design and manufacturing software and the preparation of 3D digital models for computer controlled manufacturing machines.
Course Learning Outcomes	At the end of the course, student are expected to gain a full understanding on the definitions of computer aided design and manufacturing, have the necessary skills for modelling in Solidworks and Rhinoceros softwares suitable for manufacturing and converting surface models to solid models.
Resources and References	No course book is required. Additional resource: http://www.solidworks.com/sw/support/training-learning-resources-materials.htm

Course Grading	Grade Points
Attendance	10
Laboratory	
Applications	
Field Study	
Tasks	30
Presentations	
Projects	
Seminars	
Midterms	25
Quiz	
Final	35
Total	100

Weekly Outline		Topics
	1	**Introduction to solid modelling and the notions of solid modeling** Introduction to the course content, assessment of the expectations of students from the course and their existing knowledge related to the course. Examination of the differences between solid and surface modelling and their application areas in the design process.
	2	**Explanation of solid modelling tools in Rhinoceros** Explanation of solid modelling tools and command in Rhinoceros, the advantages and disadvantages of solid modelling an exporting these models into other softwares..
	3	**Solid modelling applications in Rhinoceros** Solid modelling and analysis of an object from an existing surface model in Rhinoceros.
	4	**Introduction to Solidworks** Introduction to the interface of Solidworks, discussion on its similarities and differences with 3DS MAX and Rhinoceros softwares. Examination of sketch and design features in Solidworks. Visualization of designed objects in Solidworks and the evaluation of design alternatives before continuing with the process of solid modelling.
	5	**Introduction to solid modelling and modelling of basic objects and parts** Examination of the relationship between modelling and the design decisions before continuing with modelling and the relationship between modelling and manufacturing methods.
	6	**Solid modelling by using Sketch features in Solidworks – 1** Searching for design alternatives by using orthographic sketch features.
	7	**Solid modelling by using Sketch features in Solidworks – 2** Solid modelling from orthographic drawings by using sketch features in Solidworks.
	8	**Visualization of parts modelled in Solidworks - 1** Making technical drawings of parts from solid models for manufacturing.
	9	**Visualization of parts modelled in Solidworks - 2** Making technical drawings of parts from solid models, their dimensioning suitable for printing.
	10	**Solid modelling of parts and mechanisms using Assembly features in Solidworks** Making solid models from multiple part assembly files and the analysis of their relationship.
	11	**Parametric design in Solidworks** Parametric feature of Solidworks and creating configurations using design tables.
	12	**General assessment** Students are asked to make a solid model of a product that they designed, prepare their assembly files and present them with dimensioned technical drawings.