

## EXPERIENTIAL ENGINEERING EDUCATION (ExEEd) – PROJECT BASED LEARNING

V Semester: Common for all branches								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
ACSC20	Foundation	L	T	P	C	CIA	SEE	Total
		2	-	-	1	30	70	100
<b>Contact Classes: 36</b>		<b>Tutorial Classes: Nil</b>		<b>Practical Classes: Nil</b>		<b>Total Classes: 36</b>		
<b>Prerequisite: There are no prerequisites to take this course</b>								
<b>I. COURSE OVERVIEW:</b>								
<p>Project based learning lab mainly focuses on the creation of concrete solutions to specific problems. This is particularly challenging when the solution and its elements are entirely unknown. In so-called top-down approaches, the development focus is on the desired features of the new product rather than on already existing solutions or their elements. Both methods from product development, such as creativity techniques, and methods from lightweight design, such as physical surrogate modeling, help to explore the unknown and find a way to new solutions to complex problems. For complex problems, it is often important to consider the entire system by adopting a holistic and interdisciplinary view. In both lightweight design and in product development, all relevant requirements on a product, all aspects of feasibility and constraints on realization, and all interactions of all system components have to be taken into account.</p>								
<b>II. COURSE OBJECTIVES:</b>								
<b>The students will try to learn:</b>								
<p>I The role of next generation entrepreneurs and creative leaders to resolve live challenges and become breakthrough innovators and dynamic thinkers.</p> <p>II The transforming innovative ideas into successful businesses and work in a direction towards the future needs of industries.</p> <p>III About how to use a range of creative thinking tools to develop out of the box ideas for developing solutions to the complex problems.</p>								
<b>III. COURSE OUTCOMES:</b>								
<b>After successful completion of the course, students should be able to:</b>								
CO 1	Develop knowledge and skills from various areas through more complex and multidisciplinary projects to select a research topic. .						Apply	
CO 2	Examine the collected evidences to make quantitative, qualitative and statistical analysis for finding the research problem.						Analyze	
CO 3	Identify unstructured problems that need research as an individual or as a member/leader in diverse teams to discern which information is reliable and which is not.						Apply	
CO 4	Make use of a software tool by running simulations rigorously to get the desired output for the research problem found.						Apply	
CO 5	Assess the outputs achieved by making judgments about information and validity of ideas for confirming the quality of work based on a set of criteria.						Evaluate	
CO 6	Build a hardware prototype to test and analyze the product designed for an application.						Create	
<b>IV. COURSE SYLLABUS</b>								
I. Defining the Problem								
II. Gathering requirements								
III. Design / Modeling								
IV. Implementation								
V. Testing								
VI. Report								