UNIVERSITI TEKNOLOGI MARA

CBE694: RESEARCH PROJECT II

Course Name (English)	RESEARCH PROJECT II APPROVED
Course Code	CBE694
MQF Credit	3
Course Description	In this course each student will be briefed on aspects of chemical and bioprocess engineering research. They are subsequently required to carry out literature review on assigned research titles and spend at least 2 hours per week on searching for relevant literatures from the internet and library. At the end of the course, they are required to methodically design their experiments (under the supervision of a lecturer) and provide a written proposal. A series of lectures on literature review search strategy, experimental design, and thesis writing will be given as guidance for the students. The sequence of the report is based on a systematic development of the thesis. The subjects of these reports are: 1. An introduction to the general topic 2. A literature review of the specific topic of the project or thesis 3. A thesis proposal that should include the detailed scope and plan of the research. Each of these reports should contain primary material that will be included in the final thesis report, which will be delivered at the conclusion of the research.
Transferable Skills	The primary objective of this course is to prepare the student for thesis / project research. A secondary objective is to provide training in technical presentation techniques - both written and oral. The results of this course should be a complete project research proposal, including scope definition, time schedule for implementation, literature review and methodology. In addition, this course prepares the student for their final project defense.
Teaching Methodologies	Lectures, Blended Learning, Lab Work, Discussion, Workshop, Journal/Article Critique, Supervision
CLO	CLO1 Ability to identify, formulate and solve engineering problems, including complex engineering problems, using the principles of mathematics, basic and applied science and engineering fundamentals CLO2 Ability to perform research, design and conduct experiments, as well as to analyze, interpret, conclude and validate data of research-based fundamental and complex engineering problems CLO3 Ability to utilize modern science, engineering or IT tools and systems to solve common engineering problems, including complex system
Pre-Requisite Courses	No course recommendations

Topics
1. Research Design and Methods 1.1) Literature search 1.2) Methodology
2. Data Collection, Analysis, and Presentation 2.1) Report writing 2.2) Instrumentation 2.3) Sampling and Data Gathering
3. Analysis and Interpretation 3.1) Research Ethics 3.2) Report Writing

Assessment Breakdown	%
Continuous Assessment	40.00%
Final Assessment	60.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Individual Project	n/a	10%	CLO1 , CLO2 , CLO3
Journal/Article Critique	n/a	15%	CLO1 , CLO2 , CLO3
Presentation	n/a	15%	CLO1 , CLO2 , CLO3

Reading List	This Course does not have any book resources
Article/Paper List	This Course does not have any article/paper resources
Other References	This Course does not have any other resources