

COURSE OUTLINE

Department & Faculty: Department of Mathematics, Faculty of Science	Page : 1 of 5
Code and Subject: SSCU 4904 – Final Year Project 2 Programme code: SSCM/SSCE	Semester: 2 Academic Session: 2016/17

Lecturer	:	Zaiton Mat Isa
Room No.	:	C22-440
Tel. No	:	34223
e mail	:	zaitonmi@utm.my
Pre-requisites	:	SSCU 4902

Programme Educational Objectives (PEO)

The objectives of the **BSc (Industrial Mathematics)** program are to provide the knowledge, skills and attributes achieved by the graduates for a successful career. It is therefore anticipated that, graduates of the program will

PEO	Description
1	be mathematically competent professionals capable of dealing with qualitative and quantitative problems in various industries.
2	be able to assume productive roles and positions in planning, decision making, analysis and supervision in the industrial and public sectors.
3	exhibit team working and leadership skills with effective communication and desirable interpersonal skills.
4	pursue life-long learning, enabling them to identify, adapt and seize business opportunities.

Programme Educational Objectives (PEO)

The objectives of the **BSc (Mathematics)** program are to provide the knowledge, skills and attributes that should be achieved by the graduates for a successful career. It is therefore anticipated that, graduates of the program will

PEO	Description
1	be mathematically competent professionals able to apply their knowledge and skills in related industries, teaching, research and development of new knowledge.
2	have the proficiency in both writing and oral communication to disseminate mathematical knowledge.
3	have the skills and motivation for continued life-long education in the acquisition of new mathematical knowledge and skills in depth and in breadth.

Program Learning Outcomes (PO)

The POs for this course are the following:

SSCM

PO1	Ability to acquire knowledge on fundamental mathematical concepts, theories and techniques related to current issues.
PO2	Ability to apply the mathematics knowledge and techniques efficiently to solve mathematical and statistical problems and do convincing analysis on the results obtained.
PO4	Ability to understand, extract, analyse and identify problems from a variety of sources and develop approaches based on mathematical knowledge to solve problems.
PO5	Ability to convey ideas and mathematical knowledge clearly and effectively in both written and oral forms to a range of audiences.
PO7	Ability to seek independent study and demonstrate the awareness for continuous personal and professional development.
PO9	Ability to adapt ethical values and integrity in the context of their profession and obligations to society.

Prepared by Name: Signature: Date:	Certified by Name: Signature: Date:
--	---

COURSE OUTLINE

Department & Faculty: Department of Mathematics, Faculty of Science	Page : 2 of 5
Code and Subject: SSCU 4904 – Final Year Project 2 Programme code: SSCM/SSCE	Semester: 2 Academic Session: 2016/17

SSCE

PO1	Ability to acquire knowledge on fundamental mathematical concepts, theories and techniques related to current issues.
PO2	Ability to apply and practice skills in mathematical reasoning, construct proofs and display proficiency in using a variety of mathematical techniques in carrying out mathematical analysis.
PO4	Ability to understand, extract, analyse and identify problems from a variety of sources and develop approaches based on mathematical knowledge to solve problems.
PO5	Ability to convey ideas and mathematical knowledge clearly and effectively in both written and oral forms to a range of audiences.
PO7	Ability to seek independent study and demonstrate the awareness for continuous personal and professional development.
PO9	Ability to adapt ethical values and integrity in the context of their profession and obligations to society.

Synopsis

Students are required to execute a project (research) under an identified supervisor in an agreeable field of mathematics and document their findings. Students will learn to gather information on chosen topics through literature survey/review activities, construct research methodology, anticipate results, analyze findings, draw conclusion, write references, and to suggest further research. Finally, students are required to submit a proceeding and a project or research report comprising of Title, Introduction, Statement of Problem, Research Objectives, Literature Survey/Review, Research Methodology, Analysis of Findings, Conclusion, and References.

Learning Outcomes

By the end of the course, students should be able to:

No.	Course Learning Outcomes	Programme Learning Outcome(s) Addressed	Assessment Methods
CO1	Identify and apply specific knowledge and understanding of mathematics concept in solving specific mathematical problems critically, logically, creatively and analytically.	PO1(C2,P2,A1), PO4(CT1 – CT3)	Project Report,
CO2	Demonstrate ethically high intellectual skills, competent and attain sufficient mathematical research exposure related to industries.	PO2(C4,P4,A3),	Project Report,
CO3	Adopt responsive and adaptive characteristic features in changing situation with high desire to continuous learning in the acquisition of new knowledge and skill.	PO7(LL1,LL2), PO9(EM1,EM2)	Log book entries, Project Report,
CO4	Demonstrate high intellectual capabilities and fairly skills and able to work independently and effectively as part of team or group.	PO2(C4,P4,A2), PO4(CT1-CT3) PO7 (LL1,LL2)	Project Report,
CO5	Write a convincing report on findings based on the research experience and scientific methods adopted during research with accurate analysis, in depth discussion of result, conclusion and suggestions for	PO5(CS1-CS3) PO9(EM1,EM2)	Project Report, Proceeding

Prepared by Name: Signature: Date:	Certified by Name: Signature: Date:
--	---

COURSE OUTLINE

Department & Faculty: Department of Mathematics, Faculty of Science	Page : 3 of 5
Code and Subject: SSCU 4904 – Final Year Project 2 Programme code: SSCM/SSCE	Semester: 2 Academic Session: 2016/17

	further research with honesty.		
CO6	Present and convincingly defend findings to an audience of peers and adjust the delivery of presentation according to the situation.	PO1(C2,P2,A1), PO2(C4,P3,A3) PO4(C6,P6,A3) PO5(CS1-CS3)	Project Presentation

Student Learning Time

Teaching and Learning Activities		Student Learning Time
1.	Face-to face Learning	
a.	Lecture-Centered Learning	
i.	Lecture – General briefing	6
b.	Student-Centered Learning	
i.	Discussion with supervisor	14
2.	Self-Directed Learning	
a.	Individual research activities	80
b.	Report preparation – report writing	45
c.	Preparations for presentations- Slides preparation and rehearsal	14
3.	Formal Assessment	
a.	Presentation	1
b.	Report submission	-
	Total SLT	160

Teaching Methods

- i) Discussion
- ii) Self-directed learning
- iii) Individual Research Activities

References:

Course Module	-
Text	-
Other references	Related books, journals, articles and reviews

Assesment:

No	Type of Assesment	Number	% each	% Total	Date
1	Research report	1	75	75	Week 13
2	Presentation	1	20	20	Week 15
3	Proceeding	1	5	5	Week 13

Prepared by Name: Signature: Date:	Certified by Name: Signature: Date:
--	---

COURSE OUTLINE

Department & Faculty: Department of Mathematics, Faculty of Science	Page : 4 of 5
Code and Subject: SSCU 4904 – Final Year Project 2 Programme code: SSCM/SSCE	Semester: 2 Academic Session: 2016/17

Weekly Schedule		
Week	Activity	Note
Week 1	General Briefing (PSM-2): PSM Schedule (Activity), Regulation and Assessment, Format of Project Report Writing	The frequency of meeting depends on the supervisor-student agreement. The meeting should be recorded in the log book.
Week 2	Meeting and discussion with supervisor and individual research activities.	
Week 3	Discussion with supervisor on content and format of PSM Research Report and individual research activities	
Week 4	Discussion with supervisor on progress of report/research and individual research activities	
Week 5	Discussion with supervisor on progress of report/research and individual research activities	
Week 6	Discussion with supervisor on progress of report/research and individual research activities	
Week 7	Discussion with supervisor on progress of report/research and individual research activities Submission of Presentation Qualifying Form ('BORANG LAYAK MEMBENTANG')	
	Mid semester break	
Week 8	Discussion with supervisor on progress of report/research and individual research activities	
Week 9	Discussion with supervisor on progress of 1st draft of report and amendments of report	
Week 10	Discussion with supervisor on progress of 2nd draft of report and amendments of report	
Week 11	Discussion with supervisor on abstract of report and amendments of report	
Week 12	<u>SUBMISSION OF ABSTRACT</u> - 1 Hardcopy (Certified by SV) & Softcopy - In English (word version)	
Week 13	<u>SUBMISSION OF SPIRAL BINDING PROJECT REPORT, PROCEEDING & LOG BOOK</u> SPIRAL BINDING - 2 COPIES (Certified by SV), PROCEEDING / LOG BOOK – 1 COPY	
Week 14	Preparation for symposium	
Week 15	SYMPOSIUM Assessment of report by Supervisor and Examiner	
Week 16	CORRECTION OF PROJECT REPORT	
Week 17	CORRECTION OF PROJECT REPORT	

Prepared by Name: Signature: Date:	Certified by Name: Signature: Date:
--	---

COURSE OUTLINE

Department & Faculty: Department of Mathematics, Faculty of Science	Page : 5 of 5
Code and Subject: SSCU 4904 – Final Year Project 2 Programme code: SSCM/SSCE	Semester: 2 Academic Session: 2016/17

Week 18	SUBMISSION OF <u>HARD COVER PROJECT REPORT</u> (*3 COPIES) *1. Department (Compulsory) 2. Supervisor (Compulsory) 3. Student 1 CD of PROJECT REPORT in PDF(or word) Format SUBMISSION OF PROCEEDING - 1 COPY - HARD & SOFT COPY (IN WORD version)	

Prepared by Name: Signature: Date:	Certified by Name: Signature: Date:
--	---