Course Specification
(Bachelor)

Course Title:	**Research Project**
Course Code:	**AFM 1499**
Program:	**Bachelor of Science in Actuarial and Financial Mathematics**
Department:	**Mathematics and Statistics**
College:	**Science**
Institution:	**Imam Mohammad Ibn Saud Islamic University**
Version:	**2024 – V1**
Last Revision Date:	**None**

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A. General information about the course:

1. Course Identification

1. Credit hours:					
4					
2. Course type					
A.	☐University	☐College	☒ Program	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: Level 8 / Year 4					
4. Course general Description:					
This course allows students to undertake a research project on the topic of Actuarial Sciences and/or Financial Mathematics (AFM). It gives the students an opportunity to perform a subject within the field of Actuarial Sciences and/or Financial Mathematics or related topics under supervision according to an individual study plan and independent thinking. Also, document and summarize results by writing a research report and present the results of the project.					
5. Pre-requirements for this course (if any)**:**					
Research project course starts in the last trimester of the program study (4th year – 8thsemester).					
6. Co-requisites for this course (if any)**:**					
None.					
7. Course Main Objective(s):					
This capstone senior research project in a field of ASFM subjects aims to enable student to Evaluate, and interpret numerical, statistical and general actuarial and financial information. Moreover, it enables students to describe statistical methods for particular applications and formulate significant research questions and then to. analyze data and interpret the results using appropriate statistical methods. **The final product that the student will complete is a scientific written report that explains his/her work and results. This final written report must include the Introduction, Literature Review, Research Concerns, Methodology, Findings, and Discussion and Implication. These items will be assessed by using appropriate rubrics. The final decisive requirements of the research project are: Ethical standards (according to IMSIU Standards.), Language Conventions (Proficiency), Style (scientific concepts in writing) and Layout.**					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**0**	0%
2	E-learning	0	0%
3	Hybrid • Traditional classroom • E-learning	0	0%
4	**Others (specify): weekly meetings, Readings, Discussions, Reports, and Oral Presentations**	60	100%

3. Contact Hours (based on the academic trimester)

No	Activity	Contact Hours
1.	Lectures	0
2.	Laboratory/Studio	0
3.	Field	0
4.	Tutorial	0
5.	Others (specify): weekly meeting	60
Total		60

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Produce a substantial research-based project	K2	Meeting and discussion	Direct: • Preliminary Reports
1.2	Transfer depth knowledge of currently active research areas in Actuarial and Financial Mathematics.	K3	• Self-study and personal work	Direct: • Written report Oral presentation (rubrics)
2.0	Skills			
2.1	Apply Actuarial techniques to statistical and financial data to synthesize research findings	S1, S2	• Real-life problems • discussion	Direct: • Continuous evaluation of the research by the supervisor (forms of following u) • Attendance
2.2	Evaluate research findings in written and verbal forms	S3	Self-study	Direct: • Written report Oral presentation (rubrics)
2.3	Show achievement, engagement and retention	S2	Self-study	Direct: Written report (rubrics)
2.4	Decide planning, time and changing management skills	S3	Real-life problems Discussion	Direct: Oral presentation and discussions
3.0	Values, autonomy, and responsibility			
3.1	Generate an understanding of the ethical issues associated	V1	Personal questions	Direct: Attendance to weekly meeting

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	with practitioner research			
3.2	Develop research thinking skills as problem-solvers	V1, V2	Teamwork	Direct: Duties of parts of the project Rubrics

C. Course Content

No	List of Topics	Contact Hours
	The student undertakes supervised independent study and review of research documentation in active field of Mathematics with the guidance of the research supervisor.	60
	Total	60

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	First continuous evaluation (reported by the supervisor)	6thweek	20%
2.	Second continuous evaluation (reported by the supervisor)	10th week	30%
3.	Written report in English (20-35 pages)	During the term	50%
4.	Short talk in English language (oral presentation 15 minutes)	16thweek	

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Students will be guided by study notes, books, research articles and original sources (or English translations where necessary), which are provided. The students will need to master the appropriate mathematics and ultimately present his /her work in the form of a final presentation. Other appropriate learning resources are possible related to the nature of the research project.
Supportive References	Subject dependent
Electronic Materials	Subject dependent
Other Learning Materials	Subject dependent

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	▪ Each classroom should be equipped with a whiteboard and a projector. ▪ Laboratories should be equipped with computers and an internet connection.
Technology equipment (projector, smart board, software)	The rooms should be equipped with data show and Smart Board.
Other equipment (depending on the nature of the specialty)	None

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	survey
Effectiveness of Students assessment	Advisor and committee	rubrics
Quality of learning resources	Student	Survey
The extent to which CLOs have been achieved	advisor and committee	Course report and filled rubrics
Other	None	

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	MATHEMATICS AND STATISTICS DEPARTMENT COUNCIL
REFERENCE NO.	8/1446
DATE	05/04/1446 (08/10/2024)