Course Specification
(Bachelor)

Course Title:	**Graduation Project**
Course Code:	**STA 1499**
Program:	**Bachelor of Science in Applied Statistics**
Department:	**Mathematics and Statistics**
College:	**Science**
Institution:	**Imam Mohammad Ibn Saud Islamic University**
Version:	**2024 – V1**
Last Revision Date:	**2 October 2024**

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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:

Students will explore fundamental concepts such as data collection, analysis, and interpretation, as well as advanced topics like regression analysis, experimental design, and multivariate statistics. The curriculum emphasizes hands-on experience with statistical software and real-world data, enabling students to develop strong analytical skills. Through project-based learning, students will apply statistical techniques to solve complex problems in fields such as business, healthcare, and social sciences. By the end of the program, graduates will be well-equipped to leverage data-driven insights to inform decision-making and contribute to evidence-based practices in their chosen careers.

5. Pre-requirements for this course (if any):

None.

6. Co-requisites for this course (if any):

None.

7. Course Main Objective(s):

- **Students will consolidate and integrate their learning from previous courses, applying statistical theories and methodologies.**
- **Students will develop critical research skills, including problem identification, data collection, analysis, and interpretation.**
- **Students will engage in hands-on experience with statistical software and tools, enhancing their technical proficiency.**
- **Students will learn to effectively communicate their findings through written reports and presentations, targeting both technical and non-technical audiences.**
- **Students will address ethical issues in statistical practice, including data integrity, confidentiality, and ethical reporting of results.**

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**60**	**100%**
2	E-learning	**0**	**0%**
3	Hybrid • Traditional classroom • E-learning	**0**	**0%**
4	Distance learning	**0**	**0%**

No	Mode of Instruction	Contact Hours	Percentage
5	Other	**0**	**0%**

3. Contact Hours (based on the academic semester)

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

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	To apply knowledge and skills to a research problem in applied statistics	K1, K2, K3	Lectures and Seminars. Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Project Proposal Data Collection and Analysis Final Report
1.2	To provide in-depth knowledge of currently active research areas in applied statistics	K1, K2, K3	Lectures and Seminars. Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Project Proposal Data Collection and Analysis Final Report
2.0	**Skills**			
2.1	To design and implement a comprehensive research methodology appropriate for the analysis of the chosen data.	S1, S2	Lectures and Seminars. Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Project Proposal Data Collection and Analysis Final Report
2.2	To acquire experience in searching and assessing current literature.	S5	Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Project Proposal Data Collection and Analysis Final Report
2.3	To analyze arguments in relation with their premises, assumptions, contexts, and conclusions.	S3, S4	Lectures and Seminars. Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Project Proposal Data Collection and Analysis Final Report
2.4	To utilize statistical software tools to collect, analyze, and interpret data effectively.	S5	Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Project Proposal Data Collection and Analysis Final Report

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
3.0	**Values, autonomy, and responsibility**			
3.1	To communicate knowledge and skills gained in conducting a research project.	V1, V3	Seminars. Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Data Collection and Analysis Final Report Presentation
3.2	To comprehend information accessed through reading and discussion.	V1, V2	Seminars. Independent Research Group Discussions and Debates Mentorship and Advising	**Direct:** Data Collection and Analysis Final Report Presentation

C. Course Content

No	List of Topics	Contact Hours
1.	**The student undertakes a supervised independent study in some specific topic. He/she undertakes a review of the research documentation and / or the training in an active field of Applied Statistics under the guidance a 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)**	**6th week**	**20%**
2.	**Second continuous evaluation (reported by the supervisor)**	**10th week**	**30%**
3.	**Written report in English**	**During the semester**	**50%**
4.	**Short presentation in English language (oral presentation 15 minutes)**	**14th-15th week**	

*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	**The student will be guided by study notes, books, research articles. The use of the Internet and the local networks is highly advisable for the student to access the necessary scientific documents.**

	The student will need to master some appropriate research topics , and ultimately present his/her work in the form of a final presentation. Other appropriate learning resources are possible depending on the nature of the research project.
Supportive References	Depending on the individual research topics and methodologies chosen by students.
Electronic Materials	Depending on the resources available through the institution's library and relevant online databases (DSL).
Other Learning Materials	Depending on the specific requirements and focus of each student's research project.

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	▪ Each of the class room 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. All computers should be equipped with the following software: • Microsoft Excel • IBM SPSS • R-Project • MATLAB
Other equipment (depending on the nature of the specialty)	See the Attached File

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student and teaching staff	Surveys and Questionnaires
Effectiveness of Students assessment	Course Coordinator	Peer Reviews
Quality of learning resources	Students and teaching staff	Classroom Observations
The extent to which CLOs have been achieved	Student Representatives	Student Performance Evaluations (exams, projects) CLOs Excel sheet.
Other	None	

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval

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