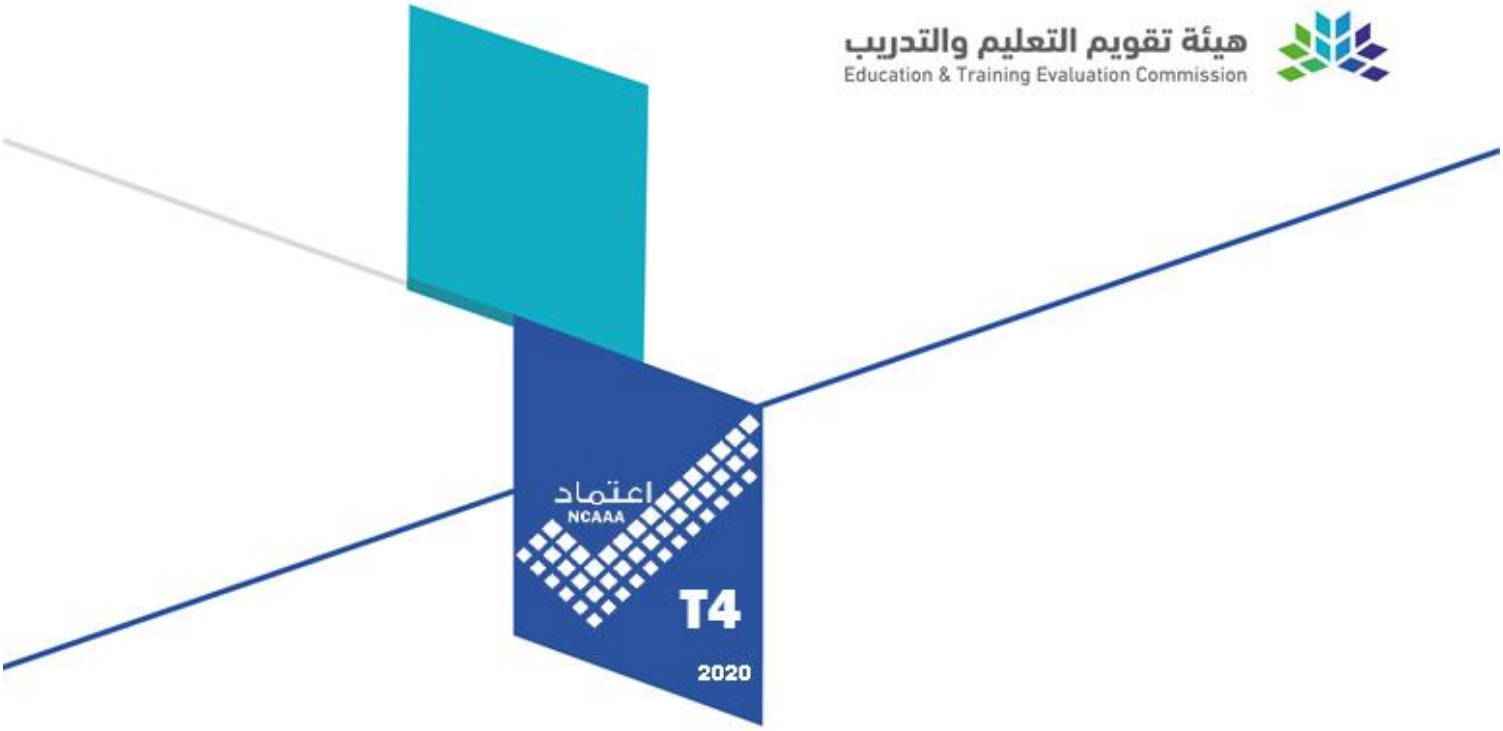
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Graduation Project
Course Code:	**MATH 4820**
Program:	**BACHELOR OF SCIENCE IN MATHEMATICS**
Department:	**MATHEMATICS**
College:	**COLLEGE OF SCIENCE AND HUMANITIES STUDIES**
Institution:	**PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY**

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A. Course Identification

1. Credit hours: 03 hours
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered:
4. Pre-requisites for this course (if any)**:** **Must have acquired 115 credit hours**
5. Co-requisites for this course (if any)**:** NIL

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	Weekly 4 hours	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture (14 x 2)**	28
2	**Laboratory/Studio**	
3	**Tutorial (14 x 2)**	28
4	**Others** (specify) - Office Hours (14 X 5)	60
	Total	116

B. Course Objectives and Learning Outcomes

1. Course Description

As a partial fulfillment for the award of degree of Bachelor of Science in Mathematics, students are required to complete a graduation project during the course of study. At the beginning of the last semester of the program the student will have to select a topic for the project in consultation with the project supervisor allotted to them from the department. The student will have to do a detailed study of the selected topic under the guidance of the supervisor and submit a report by the end of the semester. The project report will be examined by an examiner appointed by the Head of the Department and proper grade will be awarded for the project

2. Course Main Objective

The Objective is to make the acquire skill to collect information in a given topic, understand its relevance and apply the concepts of mathematics to find solutions and make presentation before forums. This course also aims to prepare the students for pursuing Graduate Programs in Mathematics leading to research in their field of interest.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
K1	Recall the scope, application, history, problems, methods, usefulness of Mathematics and Statistics to mankind both as a science and as an intellectual discipline	K1
K2	Reproduce the algorithms and results proved in various branches of mathematics/statistics and also construct mathematical proof as appropriate.	K2
K3	Recognize the relationship and interdependency between Mathematics /Statistics and other scientific fields.	K3
K4	Describe appropriate method to solve mathematical and statistical problems both manually as well as using software	K4
2	**Skills :**	
2.1	Able to analyze the problems in relation to the associated mathematical concepts and plan strategies for solving the same	S1
2.4	Use appropriate methods / technology to reconstruct and solve mathematical problems	S2
3	**Values:**	
3.1	appreciate the contribution of mathematics to the society in various fields	V1
3.2	take up new responsibilities and acquire leadership traits	V2
3.3	Make defence in a topic	V3

C. Course Content

No	List of Topics	Contact Hours
1	Review of Topics in Mathematics associated with the project	6
2	Selection of research problem	4
3	Collection of resources and references	6
4	Conduct of Study	6
5	Writing of Report and Submission	3
6	Preparing for Defense and Review	3
TOTAL		28

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
K1	Recall the scope, application, history, problems, methods, usefulness of Mathematics and Statistics to mankind both as a science and as an intellectual discipline	1. Class Room Lectures 2.Interactive sessions 3.Exclusive Office Hours for clearing doubts in small groups	1.Three internal assessments (10%, 15% and 25%) 2. Final discussion on the Project report before a committee nominated by the Department council.
K2	Reproduce the algorithms and results proved in various branches of mathematics/statistics and also construct mathematical proof as appropriate.		
K3	Recognize the relationship and interdependency between Mathematics /Statistics and other scientific fields.		
K4	Describe appropriate method to solve mathematical and statistical problems both manually as well as using software		
2.0	**Skills**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.1	Able to analyze the problems in relation to the associated mathematical concepts and plan strategies for solving the same	1. Application oriented exercises during tutorial session. 2. Homework to improve the analytical skills	1. Homework 2. Assignments 3. Quiz 4. Project Presentation and Discussion
2.4	Use appropriate methods / technology to reconstruct and solve mathematical problems		
3.0	**Values**		
3.1	appreciate the contribution of mathematics to the society in various fields	Group Discussion during lectures and Interactive Session and Exercises during Lecture and Tutorials	1.Poster Presentation 2. Continuous assessment 3. Workshop attendance 4. Report evaluation 5.Defence
3.2	take up new responsibilities and acquire leadership traits		
3.3	Make defence in a topic		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Continuous Assessment – Homework, Assignment, Attendance etc.	--	50%
2.	Poster Presentation	13	10%
2	End Semester Exam – Review of Project Report by team of faculty members and Defense of Report by the student	13	40%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

1. Exclusive Office Hours – 5 Hours per week
2. Academic Advising for Students – 1 Hour per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Collected Notes
Essential References Materials	NIL
Electronic Materials	Some Mathematical Programs
Other Learning Materials	Lecture Notes Prepared by the Department of Mathematics

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Class Room / Discussion Hall for small groups/ Blackboard
Technology Resources (AV, data show, Smart Board, software, etc.)	Smartboard, Internet Connection for Blackboard
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	NIL

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students, Graduates	Course Evaluation and Program Evaluation Survey (Indirect)
	Program Leaders	Peer Review (Direct)
Achievement of CLOs	Faculty and Quality Personnel	Direct (Tests and Quiz) and Review of Course Report
Quality of Learning Resources	Students	Course Evaluation (Indirect)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Dept Council Meeting
Reference No.	
Date	