Kingdom of Saudi Arabia
Ministry of Higher Education
Majmaah University
Zulfi, College of Sciences
Mathematics Department

جامعة المجمعة
Majmaah University

المملكة العربية السعودية
وزارة التعليم العالي
جامعة المجمعة
كلية العلـــوم بالزلفي
قسم الرياضيات

COURSE CLASSIFICATION FORM

Course Number/Name		**Math243 Number theory**	
Prepared by		**Dr. Khaled El Helow**	
Program Learning Outcomes	**Levels* (0,1,2, 3,4,5)**	**Relevant Activities**	**Assessment Methods/Metrics**
a1. Apply fundamentals and concepts of mathematics.	**5**	- Lectures - assignments	• 2 Midterm and final exam • Home work
a2. Apply fundamentals and concepts General sciences and Computer skills.	**3**	- assignments on Logical statements	• 1 Midterm and final exam • Home work
a3. Realize Social and ethical values	**0**		•
b1. Read and construct mathematical arguments and proofs	**4**	- Lectures - assignments	Home work
b2. Apply critical thinking skills to solve problems that can be modeled mathematically.	**5**	- Lectures - assignments - Oral discussion	• 3 Midterm and final exam+ Home work
c1. Work independently and within a team	**3**	Divided students into groups and using oral discussion with homework	• Home work
c2. Bear responsibility for different situations.	**2**	Real life applications	• Quizzes
c3. Realize codes of ethics and their importance.	**0**	Open book exam	• Quizzes
d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writing.	**4**	- Lectures - assignments - Oral discussion	• 3 Midterm + final exam • Home work • Quizzes
d2. Ability to Organize, connect and communicate mathematical and algorithmic ideas.	**4**	- Lectures - assignments	• Home work • Quizzes
d3. Critically interpret numerical and graphical data.	**3**	- assignments on information data and represented data	• Home work • Quizzes
e1. Use computer and its applications as an office tool	**3**	- assignments on Logical expression	Home work Quizzes

*** Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course.**

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Course Objectives and Outcomes

Course Number: MATH243 Course Name: Number Theory
Prepared by: Dr. Khaled El Helow

Table 1: Relationship of course objectives/outcomes with PLO and ASIIN Criteria

Course Objectives:	Course Outcomes:	ASIIN	PLO
1. This course is designed to follow on from, and reinforce, A level mathematics.	1. Solve open-ended problems, cope with decision making and satisfy competing objectives	c	
	2. Know how a team can use the Statistical Inference process to carry out a project. 3. Apply knowledge, as needed, to design a satisfactory system to achieve a final successful project.	c, e c	
2. present students with a wide range of mathematics ideas in preparation for more demanding material later.	1. Prepare a needs-assessment and define a deliverable for a project.	c, e	
	2. Synthesize information that the team gathers to solve open-ended problems.	e	
	3. Conceptualize alternative concepts, evaluate alternatives, select preferred alternative, and implement the preferred project	c, e	
3. Enable students to apply Mathematical tools/ techniques to product project	1. Use and integrate the fundamentals studied previously towards the goal of analyzing and designing project to achieve	a, c	
	2. Able to develop and use appropriate analytical models 3. Use appropriate software for project, modeling, and analysis	a k	
4. Broaden skills in team work, critical thinking, communication, planning and scheduling through design project	1. Learn successful group interaction for a project	d, g	
	2. Produce final design report as part of their deliverable	g	
	3. Deliver a final oral presentation for their project.	g	
5. Enable students to consider safety, ethical, legal, and other societal constraints in execution of their design projects	1. Understand environmental and legal issues	h	
	2. Understand the importance of professional and ethical	f	
	3. Understand the impact of aesthetic and human aspects	h	
	4. Select from standard tables and catalogues machine elements, components and materials given appropriate performance requirements	c	

Table 2: Methods of assessment of course syllabus

.

Assessment Method	Number/Type				Instructor Assessed	TA/Grader Assessed	Peer/Self Assessed
Homework	5 homework assignments				x		
Mid Terms/Final Exams	2 mid-term; 1 final exam				x		
Quizzes	One biweekly				x		
Individual Projects	1-2 wks	3-4 wks	1/2 sem	Full sem			
Team Projects	1-2 wks	3-4 wks x	1/2 sem	Full sem x	x		x
Lab Assignments							
Computer Assignments							
Computer Tools Used							
Oral Presentations	one				x		x
Written Reports	one				x		
Other	Design project (project binder)				x		

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Instructor Course Evaluation Form

The purpose of this evaluation is to collect instructor feedback for improving this course and the Mathematics program. Information will also be used for program accreditation purposes.

I. Program Learning Outcomes Evaluations

Course Number/Name	Math243 Number theory	Semester	First 1434/1435
Instructor	Dr. Khaled El Helow		

The course listed above is designed for students to achieve the following outcomes at a Not At All, Low, Low- Medium, Medium, Medium-High or High level.

Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course.

Program Learning Outcomes	Relevant Activities	5	4	3	2	1	0
a1. Apply fundamentals and concepts of mathematics.	- Lectures - assignments	**5**					
a2. Apply fundamentals and concepts General sciences and Computer skills.	- assignments on logic statements			**3**			
a3. Realize Social and ethical values.	Some real life applications					**1**	
b1. Read and construct mathematical arguments and proofs.	- Lectures - assignments		**4**				
b2. Apply critical thinking skills to solve problems that can be modeled mathematically.	- Lectures - assignments - Oral discussion	**5**					
c1. Work independently and within a team	Divided students into groups and using oral discussion with homework			**3**			
c2. Bear responsibility for different situations.	By solving some applications				**2**		
c3. Realize codes of ethics and their importance.							**0**
d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writing.	- Lectures - assignments - Oral discussion		**4**				
d2. Ability to Organize, connect and communicate mathematical and algorithmic ideas.	- Lectures - assignments		**4**				
d3. Critically interpret numerical and graphical data.	- assignments on information data and represented data			**3**			
e1. Use computer and its applications as an office tool	- assignments on Logical expression			**3**			

II. Catalog Description , and Course Prerequisites Evaluations:

Based on your experiences in the course, please respond by circling the most appropriate number. Circle N/A for items that are not applicable, or if you have no opinion.

Catalog Description 1434-1435	• **Mathematical Logic + Mathematical Induction** • **Functions and their properties + Sets and their properties** • **Relations and their properties + Representing relations + Equivalence relation** • **Groups and their properties** • **Rings and their properties + polynomials ring + Partial fractions** • **Field and their properties**						
Course Prerequisites:	PMTH 112 + PMTH127	**Circle One (5=Strongly Agree; 1=Strongly disagree)**					
2a. Do you believe that the catalog description (above) is accurate for this course?		**(5)**	**4**	**3**	**2**	**1**	**N/A**
2b. Do you believe that the course prerequisites (above) are appropriate for this course?		**5**	**(4)**	**3**	**2**	**1**	**N/A**
2c. If not, please list any prerequisites you believe are not appropriate for this course.							

III. Textbook(s) and/or Lab Manuals (if applicable) Evaluations:

Textbook(s) and/or Lab Manuals (if applicable):	• **Calculus with analytic Geometry. ByRoland E.Larson, Bruce H.Edwards, Robert P.Hostetler** • **Kenneth H. Rosen: Discrete Mathematics and its application, Sixth Edition, Mc Graw Hill, 2006.**	**Circle One (5=Strongly Agree; 1=Strongly Disagree)**					
3a. In general, do you believe this to be an appropriate textbook for this course?		**(5)**	**4**	**3**	**2**	**1**	**N/A**
3b. Was the organization of the textbook appropriate for this course?		**5**	**(4)**	**3**	**2**	**1**	**N/A**
3c. Was the level of the textbook appropriate for this course?		**5**	**(4)**	**3**	**2**	**1**	**N/A**

IV. Computer usage (if applicable) Evaluations:

Computer usage (if applicable):	**Circle One (5=Strongly Agree; 1=Strongly Disagree)**					
5a. Was the use of computer well integrated with the course?	**5**	**4**	**(3)**	**2**	**1**	**N/A**
5b. Was the computer lab adequately equipped with well-maintained and updated computers?	**5**	**4**	**3**	**2**	**(1)**	**N/A**
5c. Was the computer lab equipped with sufficient number of computers?	**5**	**5**	**5**	**2**	**1**	**(N/A)**
5d. Were the special software packages (MATLAB, SPSS, C+, FORTRAN, etc) available and accessible?	**5**	**4**	**3**	**2**	**1**	**(N/A)**
5e. Was adequate technical support available when needed?	**5**	**4**	**3**	**2**	**1**	**(N/A)**

رصد الدرجات

الفصل الثاني 1435/1434

المقر	الزلفي- ذكور	اسم المقرر	نظرية الأعداد
الدرجة	البكالوريوس	النشاط	محاضرة
رمز المقرر	MATH 243	الشعبة	458

تسلسل	رقم الطالب	اسم الطالب	فصلي (60%)	نهائي (40%)	المجموع	التقدير
1	301113277	هايس بن رشيد بن زنبور الشمري	55	27	82	ب
2	322120555	عبدالعزيز بن مهلم بن دليم الظفيري	54	26	80	ب

اسم أستاذ المقرر : خالد السيد السيد الحلو

التوقيع : .....

اسم رئيس القسم : .....

التوقيع : .....

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Student Course Evaluation Form

The purpose of this evaluation is to collect instructor feedback for improving this course and the Mathematics program. Information will also be used for program accreditation purposes.

I. Program Learning Outcomes Evaluations

Course Number/Name	Math 243 Number theory	Semester	second 1434/1435
Instructor	**Dr. Khaled El Helow**		
Student Name	----------	**Student ID**	----------

The course listed above is designed for students to achieve the following outcomes at a Not At All, Low, Low- Medium, Medium, Medium-High or High level.

Please mark (or type) High (5), Medium-High (4), Medium (3), Low-Medium (2), Low (1) or Not At All (0) indicating the level to which you believe, as an instructor, the students have achieved these outcomes in this course.

Program Learning Outcomes	5	4	3	2	1	0
a1. Apply fundamentals and concepts of mathematics.						
a2. Apply fundamentals and concepts General sciences and Computer skills.						
a3. Realize Social and ethical values.						
b1. Read and construct mathematical arguments and proofs.						
b2. Apply critical thinking skills to solve problems that can be modeled mathematically.						
c1. Work independently and within a team						
c2. Bear responsibility for different situations.						
c3. Realize codes of ethics and their importance.						
d1. Communicate a depth and breadth of mathematical knowledge, both orally and in writing.						
d2. Ability to Organize, connect and communicate mathematical and algorithmic ideas.						
d3. Critically interpret numerical and graphical data.						
e1. Use computer and its applications as an office tool						

II. Catalog Description , and Course Prerequisites Evaluations:

Based on your experiences in the course, please respond by circling the most appropriate number. Circle N/A for items that are not applicable, or if you have no opinion.

Catalog Description 1434-1435	First and second principle of Mathematical Induction- Well–ordering principle – Divisibility- Euclidean Algorithm. Primary Numbers and their properties- Linear Diophantine Equations- Congruence's and their properties- linear Congruence's- The Chinese Remainder Theorem- Fermat's little theorem- Euler's theorem- Wilson's theorem- Arithmetic functions- Pythagorean triples						
Course Prerequisites:		**Circle One (5=Strongly Agree; 1=Strongly disagree)**					
2a. Do you believe that the catalog description (above) is accurate for this course?		5	4	3	2	1	N/A
2b. Do you believe that the course prerequisites (above) are appropriate for this course?		5	4	3	2	1	N/A
2c. If not, please list any prerequisites you believe are not appropriate for this course.							

III. Textbook(s) and/or Lab Manuals (if applicable) Evaluations:

Textbook(s) and/or Lab Manuals (if applicable):	**Elementary number theory and its Applications 6th Edition Kenneth H.Rosen Addison-Wesley publishing company. New York 2010 13:978-0321500311 Elementary Number Theory Gareth A. Jones and Josephine M. Jones Springer 1998 3-540-76197-7**	**Circle One (5=Strongly Agree; 1=Strongly Disagree)**					
3a. In general, do you believe this to be an appropriate textbook for this course?		5	4	3	2	1	N/A
3b. Was the organization of the textbook appropriate for this course?		5	4	3	2	1	N/A
3c. Was the level of the textbook appropriate for this course?		5	4	3	2	1	N/A

IV. Computer usage (if applicable) Evaluations:

Computer usage (if applicable):		**Circle One (5=Strongly Agree; 1=Strongly Disagree)**					
4a. Was the use of computer well integrated with the course?		5	5	5	2	1	N/A
4b. Was the computer lab adequately equipped with well-maintained and updated computers?		5	4	3	2	1	N/A
4c. Was the computer lab equipped with sufficient number of computers?		5	5	5	2	1	N/A
4d. Were the special software packages (MATLAB, SPSS, C+, FORTRAN, etc) available and accessible?		5	4	3	2	1	N/A
4e. Was adequate technical support available when needed?		5	4	3	2	1	N/A