

Kingdom of Saudi Arabia
The National Commission for Academic Accreditation
&
Assessment

Course Specification

Institution: **University of Dammam**

A. Course Identification and General Information

1. Course title and code: CALCULUS II, Math 211N			
2. Credit hours: 3			
3. Program(s) in which the course is offered: Mathematics program			
4. Name of faculty member responsible for the course: A specific team from the Mathematics Department			
5. Level/year at which this course is offered:			
6. Pre-requisites for this course (if any): CALCULUS I			
7. Co-requisites for this course (if any): N/A			
8. Location if not on main campus: College of Sciences – Girls Campus – Rayan City			
9. Mode of Instruction (mark all that apply)			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="75%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input checked="" type="checkbox"/>	What percentage?	25%
d. correspondence		What percentage?	<input type="text"/>
f. other		What percentage?	<input type="text"/>
Comments: The e-learning concerns the use of blackboard, flip teaching, online assessment, ect.			
	<input type="text"/>		<input type="text"/>

B Objectives

1. What is the main purpose for this course?

On successful completion of this course students will be able to:

- **use the integral by parts to solve the integration**
- **can be solve the trigonometric integration**
- **use the trigonometric substitutions to solve kind of integration**
- **also, integration of rational functions by partial fractions can be use**
- **Integral tables algebra systems**
- **Finally can be solve Improper integrals**
- **students can be know infinite sequences and series**
- **understand the meaning of such sum and develop method of calculate**
- **using several methods to establish the converge and diverge of series**
- **using Integral test**
- **using Comparison test**
- **The ratio and root test**
- **Alternating series, Absolute and conditional convergence**
- **Power series and convergence**
- **Taylor and maclaurin series**
- **Converge of Taylor and maclaurin series**
- **Binomial series and applications of taylor series**
- **Parametric equations and polar coordinates**
- **Calculus with parametric curves**
- **Finally , Polar coordinates**

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- **Create, improve and complete (beamer or power point) presentations.**

- **Update the course by comparing to the contents at other universities.**
- **Follow up on the latest books to select the most appropriate to update the contents.**

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- **Create a question bank.**
 - **Find web sites related to the topic.**

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
<ul style="list-style-type: none">• use the integral by parts to solve the integration• can be solve the trigonometric integration• use the trigonometric substitutions to solve kind of integration• integration of rational functions by partial fractions• Integral tables algebra systems• Finally can be solve Improper integrals	5	3

<ul style="list-style-type: none"> • students can be know infinite sequences and series • understand the meaning of such sum and develop method of calculate • using several methods to establish the converge and diverge of series • using Integral test • using Comparison test • The ratio and root test • Alternating series, Absolute and conditional convergence • Power series and convergence • Taylor and maclaurin series • Converge of Taylor and maclaurin series • Binomial series and applications of taylor series 	6	3
<ul style="list-style-type: none"> • Parametric equations and polar coordinates • Calculus with parametric curves • Finally . Polar coordinates 	3	3

2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or Studio	Practical	Other: Office	Total
Contact Hours	2*15=30	0	0	2*15=30	4*15=60	120
Credit	2*15	0	0	1*15	0	45

3. Additional private study/learning hours expected for students per week.

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code	NQF Learning Domains	Course Teaching	Course Assessment
1.0	Knowledge	<p>Interactive learning process through questions and answers in class.</p> <p>Worked examples through a sequential delivery of surveying lectures.</p> <p>Homework consisting in solving selected exercises.</p>	<p>Exams and homework are used to assess the acquired knowledge on the subject.</p>
2.0	Cognitive Skills	<p>Lectures are covered by different worked examples.</p> <p>Engage students in discussions with questions and answers.</p> <p>Homework consisting in solving selected exercises.</p> <p>Encourage and develop self education.</p>	<p>Homework include problems, solution of which requires scientific thinking, and applications of essential theorems and results of the course</p> <p>Oral and written tests.</p> <p>Explain and communicate the corrected answers of the exams and quizzes.</p>
3.0	Interpersonal Skills & Responsibility	<p>Discussion.</p> <p>Explanation.</p>	<p>Class attendance of students at the beginning of the lecture</p>
	<p>Punctual attendance of classes is required. Students should demonstrate</p>		

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination,	Week Due	Proportion of Total
1	Quizz1	4	5%
2	Mid-term1	6	15%
3	Quizz2	8	5%
4	Mid-term2	11	15%
5	Homework	Every week	5%
6	Research project	15	5%
7	Final exam	As	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

4 hrs/week for students' consultation and academic advice.

E Learning Resources

1. List Required Textbooks

2. List Essential References Materials (Journals, Reports, etc.)

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories extent of computer access etc)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) <ul style="list-style-type: none"> • Lecture room with 20 seats. • Smart class.
2. Computing resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none"> • Computer room with at least 10 systems • Computer room with 20 seats
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- **Student course evaluation at the conclusion of the course.**
- **Sample of assignments and tests.**
- **Observations and discussions during the semester.**

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- **Faculty assessment of the course and effectiveness of teaching delivery.**
- **Periodic self-assessment of the program.**

3 Processes for Improvement of Teaching

- **Participate to workshops on evaluation approaches and effective teaching methods to enable instructors to improve their teaching skill.**
- **Teaching method will focus on students' learning and on course learning outcomes.**

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- **A Committee reviews samples of student work in this course to check on the standard of grades and achievements.**
- **An external faculty member evaluates the course material and the students' work to compare the standard of grades and achievements with those at his university.**

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Carry out Self- assessment at every two years and external assessment invited faculty members every four years. The feedback received from these assessments will be used to plan for further improvement in the course syllabus, teaching method, and delivery of course materials.

