ATTACHMENT 2 (g)

Course Report

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

COURSE REPORT
(CR)

Linear Algebra and Differential Equations Math 310

A separate Course Report (CR) should be submitted for every course and for each section or campus location where the course is taught, even if the course is taught by the same person. Each CR is to be completed by the course instructor at the end of each course and given to the program coordinator

A combined, comprehensive CR should be prepared by the course coordinator and the separate location reports are to be attached.

For guidance on the completion of this template refer to the NCAAA handbooks or the NCAAA Accreditation System help buttons.

Institution **Faculty of Science**	Date of Course Report : 21-3-1436
College/ Department **Mathematics Department**	

A. Course Identification and General Information

1. Course title: **Linear Algebra & Differential Equations** Code: **MATH 472** Section : **1043**

2. Name of course instructor Kamal Nazmi Nimer Location: **Zulfi**

3. Year and semester to which this report applies. First semester 1435- 1436

4. Number of students starting the course? **10** Students completing the course? **10**

5. Course components (actual total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	**60**	**20**	**0**	**0**	**90**	**170**
Credit	**4**	**2**	**0**	**0**	**0**	**6**

B - Course Delivery

1. Coverage of Planned Program

Topics Covered	Planned Contact Hours	Actual Contact Hours	Reason for Variations if there is a difference of more than 25% of the hours planned
1- System of linear equations , Matrices , Determinants, inverse of a matrix	15	15	
2- Linear dependence and independence of vectors , Rank of a set of vectors 3- Rank of a matrix , Abstract and geometric representation of vectors	15	15	
4- Scalar/Inner product, Vectorial Product, The Gram- Shmiditt Process , The Eigen Value Problem , the Eigen Vectors, Caley_Hamilton theorem and its Applications	15	15	
5- Differential Equations: Basic Concepts: First Order Differential Equations 6- Homogeneous & Exact , integrating factor , reducible to linear (Bernoulli	10	10	
7- High Order and First Degree Differential Equations (With constant coefficients) 8- Independent Solutions and the Wronskian, D-operator & Inverse D-operator	10	10	
9- Method of undetermined coefficients, high order differential equations 10- Shift rule and its application	10	10	

2. Consequences of Non Coverage of Topics

For any topics where the topic was not taught or practically delivered, comment on how significant you believe the lack of coverage is for the course learning outcomes or for later courses in the program. Suggest possible compensating action.

Topics (if any) not Fully Covered	Effected Learning Outcomes	Possible Compensating Action
None	None	None

3. Course learning outcome assessment.

	List course learning outcomes	List methods of assessment	Summary analysis of assessment results
1	Solving the system of linear equations using matrices	Exams, Midterms, Final examination.	above average
2	Recognize the matrices and operation on them, To find the inverse of matrix	Midterm exams Homework's	good
3	Recognize the vectors and the scalar and vector products	Quizzes. Homework's	good
4	**Knowledge** The Eigen Value Problem , the Eigen Vectors	Homework's Exercises during the lecture	average
5	Solving linear differential equations of first order By different methods	Homework	above average
6	Solving linear differential equations of higher order ,	Doing homework. Check the problems solution.	average

Summarize any actions you recommend for improving teaching strategies as a result of evaluations in table 3 above.

4. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification. (Refer to planned teaching strategies in Course Specification and description of Domains of Learning Outcomes in the National Qualifications Framework)

List Teaching Methods set out in Course Specification	Were these Effective?		Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties.
	No	Yes	
Start each chapter by general idea and the benefit of it. Demonstrate the course information and principles through lectures.		√	
Provide main ways to deal with the exercises.		√	
Solve some examples during the lecture.		√	
Encourage the student to look for some complicated problems in the different references.		√	
Ask the student to attend lectures for practice solving problem.			
Homework assignments.		√	
Ask the students to search the internet and use the library. Encourage them how to attend lectures regularly by assigning marks for attendance.		√	
Teach them how to cover missed lectures. Give students tasks of duties		√	
Creating working groups with peers to collectively prepare: solving problems and search the internet for some topics.	√		
Give the students tasks to measure their: mathematical skills, computational analysis and problem solving.		√	
Encourage the student to ask for help if needed.		√	
Encourage the student to ask good question to help solve the problem.		√	

Note: In order to analyze the assessment of student achievement for each course learning outcome, student performance results can be measured and assessed using a KPI, a rubric, or some grading system that aligns student work, exam scores, or other demonstration of successful learning.

C. Results

1. Distribution of Grades

Letter Grade	Number of Students	Student Percentage	Explanation of Distribution of Grades
A	0	0	**90-100**
B	0	0	**80-89**
C	2	20 %	**70-79**
D	7	70 %	**60-69**
F	1	10 %	**< 60**
Denied Entry	0	0	
In Progress	10		
Incomplete	0		
Pass	9	90 %	
Fail	1	10 %	
Withdrawn	**0**		

2. Analyze special factors (if any) affecting the results

3. Variations from planned student assessment processes (if any) (see Course Specifications).	
a. Variations (if any) from planned assessment schedule (see Course Specification)	
Variation	Reason
no	

b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specification)	
Variation	Reason
no	

4. Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator).	
Method(s) of Verification	Conclusion
N.A	
N.A	

D. Resources and Facilities

1. Difficulties in access to resources or facilities (if any)	2. Consequences of any difficulties experienced for student learning in the course.
Not Available	

E. Administrative Issues

1 Organizational or administrative difficulties encountered (if any)	2. Consequences of any difficulties experienced for student learning in the course.
None	

F. Course Evaluation

1 Student evaluation of the course (Attach survey results report)
a. List the most important recommendations for improvement and strengths none
b. Response of instructor or course team to this evaluation none
2. Other Evaluation (e.g. by head of department, peer observations, accreditation review, other

stakeholders)
a. List the most important recommendations for improvement and strengths none
b. Response of instructor or course team to this evaluation none

G. Planning for Improvement

1. Progress on actions proposed for improving the course in previous course reports (if any).

Actions recommended from the most recent course report(s)	Actions Taken	Results	Analysis
a.			
b.			
c.			
d.			

2. List what actions have been taken to improve the course (based on previous CR, surveys, independent opinion, or course evaluation).

3. Action Plan for Improvement for Next Semester/Year

Actions Recommended	Intended Action Points and Process	Start Date	Completion Date	Person Responsible
a. Diversifying the sources of learning	1- The use of new books 2- Use the net networks sites	2nd semester 1435-1436	The end of the semester	Me
b. Diversify methods of assessments	1-Action 3 exams in semester 2-Increased duties	2nd semester 1435-1436	The end of the semester	Me

Name of Course Instructor: Kamal Nazmi Nimer

Signature: **Date Report Completed: 23 -3 -1436**

Program Coordinator: _____

Signature: _____ **Date Received: _____**