Majmaah University

# Course Report

**College:** Education

**Programme** Mathematics

**Course :** Mathematical Applications in Computer

Muharram 1437 H

# Course Report

| Institution :<br>College/<br>Department | MAJMAA University<br>Education  in Zulfi<br>Mathematics | Date of CR | 26. / 8 / 1438 H. |
|---|---|---|---|

## A Course Identification and General Information

| 1.  Course title: | Mathematical applications in computer | Code | MATH 327 | Section | 254 |
|---|---|---|---|---|---|
| 2. Name of course instructor | | Dr.Mohamed O. Mahgoub | | Location : | Zulfi |
| 3. Year and semester to which this report applies: | | 2nd semester 37 – 1438 H | | | |
| 4. Number of students starting the course? | | 4 | Students completing the course? | | 4 |

5.  Course components:

| | Lecture | Tutorial | Laboratory / Studio | Practical | Other | Total |
|---|---|---|---|---|---|---|
| **Contact Hours** | 30 | ……….. | 30 | ……….. | ……. | **60** |
| **Credit** | 30 | ……….. | 15 | ……….. | ….. | **45** |

## B- Course Delivery :

### 1.  Coverage of Planned Program

| Topics Covered | Planned Contact Hours | Actual Contact Hours | Reason for Variations (*) |
|---|---|---|---|
| Introduction to Mathematica with mathematical applications | 12 | 12 | ………………………………….. |
| Using Mathematica engine in calculus operations ( Limits – differentiation – integration – solving ODEs) | 16 | 16 | ………………………………….. |
| Using Matlab  in graphing applications (plotting functions in 2 and 3D-plotting functions with contour graphs-plotting parametric curves of functions) | 12 | 12 | ………………………………….. |

| | | | |
|---|---|---|---|
| Using Matlab for linear algebra (matrices and its operations – determinants – systems of equations – eigenvalues and eigenfunctions) | 12 | 12 | ……………………………………….. |
| Editing scientific researches using scientific work place and learning the presentation skills | 8 | 8 | ……………………………………….. |

( * ) if there is a difference of more than 25% of the hours planned

## 2. Consequences of Non-Coverage of Topics

| Topics not Fully Covered (if any) | Effected Learning Outcomes | Possible Compensating Action |
|---|---|---|
| none | none | none |
| …………………………… | …………………………… | …………………………… |
| …………………………… | …………………………… | …………………………… |
| …………………………… | …………………………… | …………………………… |

## 3. Course learning outcome assessment.

| List course learning outcomes | | List methods of assessment for each LO | Summary analysis of assessment results for each LO |
|---|---|---|---|
| **1.0** | **Knowledge** | | |
| 1.1 | Recognize the methods of finding limits and derivatives and integrals by computer. | Exams, Midterms, Final examination. | Excellent |
| 1.2 | State the methods of solving linear algebra problems by computer and define the graphing techniques. | Midterm exams | Very good |
| **2.0** | **Cognitive Skills** | | |
| 2.1 | Describe the methods of editing scientific researches and presentation skills. | Quizzes. | Good |
| 2.2 | The students will explain and interpret a general knowledge of Calculus. | Midterm exams | Very good |
| 2.3 | Enable students to analyses the mathematical problems by mathematical software engines . | Homework, presentations | Above average |
| 2.4 | Student's ability to write and present scientific | Doing | Average |

| List course learning outcomes | | List methods of assessment for each LO | Summary analysis of assessment results for each LO |
|---|---|---|---|
| | researches in a correct mathematical way. | homework. Check the problems solution. | |
| 2.5 | .................................................. | ................. | ................. |
| 2.6 | .................................................. | ................. | ................. |
| 3.0 | **Interpersonal Skills & Responsibility** | | |
| 3.1 | The students will explain and interpret a general knowledge of Calculus. | Quizzes of some previous lectures. Ask the absent students about last lecture. | Good |
| 4.0 | **Communication, Information Technology, Numerical** | | |
| 4.1 | The student should interpret how to know the basic mathematical principles using the internet. | Discussion during the lecture. | Good |
| 4.2 | The student should appraise how to use the computer skills and library. | Discussing a group work sheets. | Very good |
| 5.0 | **Psychomotor** | | |
| 5.1 | **Not applicable** | Not applicable | Not applicable |
| 5.2 | .................................................. | ................. | ................. |
| 5.3 | .................................................. | ................. | ................. |
| 5.4 | .................................................. | ................. | ................. |
| 5.5 | .................................................. | ................. | ................. |
| 5.6 | .................................................. | ................. | ................. |

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

none…………………………………………………………………………………………………
…………………………………………………………………………………………………………
…………………………………………………………………………………………………………
…………………………………………………………………………………………………………
…………………………………………………………………………………

**4. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification**

| List Teaching Methods set out in Course Specification | Were They Effective? | | Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties. |
|---|---|---|---|
| | No | Yes | |
| Start each section 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. | | √ | |

# C. Results
## 1. Distribution of Grades

| Letter Grade | Number of Students | Student Percentage | Analysis of Distribution of Grades |
|---|---|---|---|
| A+ | 1 | 25 % | ………………………………………………………… |
| A | 0 | 0 % | ………………………………………………………… |
| B+ | 1 | 25 % | ………………………………………………………… |
| B | 0 | 0 % | ………………………………………………………… |
| C+ | 2 | 50 % | ………………………………………………………… |
| C | 0 | 0 % | ………………………………………………………… |
| D+ | 0 | 0 % | ………………………………………………………… |
| D | 0 | 0 % | ………………………………………………………… |
| F | 0 | 0 % | ………………………………………………………… |
| Denied Entry | 0 | 0 % | ………………………………………………………… |
| In Progress | 0 | 0 % | ………………………………………………………… |
| Incomplete | 0 | 0 % | ………………………………………………………… |
| Pass | 4 | 100 % | ………………………………………………………… |
| Fail | 0 | 0 % | ………………………………………………………… |
| Withdrawn | 0 | 0 % | ………………………………………………………… |

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

- none…………………………………………………………………………………
- ……………………………………………………………………………………………
- …………………………………………………………………………………………
- …………………………………………………………………………………………
- …………………………………………………………………………………………

## 3. Variations from planned student assessment processes (if any) .

a. Variations (if any) from planned assessment schedule (see Course Specifications)

| Variation | Reason |
|---|---|

| | |
|---|---|
| none…………………………… | ………………………………………… |
| …………………………………… | ………………………………………… |
| …………………………………… | ………………………………………… |

b. Variations (if any) from planned assessment processes in Domains of Learning

| Variation | Reason |
|---|---|
| none………………………… | ………………………………………… |
| …………………………………… | ………………………………………… |
| …………………………………… | ………………………………………… |

**4. Student Grade Achievement Verification :**

| Method(s) of Verification | Conclusion |
|---|---|
| ……another member rechecked the exam… | Same result……………… |
| …………………………………… | ………………………………………… |
| …………………………………… | ………………………………………… |

# D. Resources and Facilities

| Difficulties in access to resources or facilities (if any) | Consequences of any difficulties experienced for student learning in the course |
|---|---|
| none | none |
| …………………………………… | ………………………………………… |
| …………………………………… | ………………………………………… |

# E. Administrative Issues

| Organizational or administrative difficulties encountered (if any) | Consequences of any difficulties experienced for student learning in the course |
|---|---|
| none | none |
| …………………………………… | ………………………………………… |
| …………………………………… | ………………………………………… |

# F  Course Evaluation

## 1  Student evaluation of the course  (Attach summary of survey results)

a. List the most important recommendations for improvement and strengths

كانت متطلبات النجاح في المقرر واضحة بالنسبة لي●

● كان عضو هيئة التدريس ملتزماً بإعطاء المقرر بشكل كامل

…………………………………………………………………………………

●

b. Response of instructor or course team to this evaluation
- none…………………………………………………………………………
- ……………………………………………………………………………..
- ……………………………………………………………………………..
- ……………………………………………………………………………..

## 2. Other Evaluation :

a. List the most important  recommendations for improvement and strengths
- تقييم اللجنة الداخلية للاختبار التي أعطت الاختبار درجة 4.8 على شموليته وتحقيقه للاهداف
- …………………………………………………………………………………
- …………………………………………………………………………………
- …………………………………………………………………………………

b. Response of instructor or course team to this evaluation :
- …………………………………………………………………………………
- …………………………………………………………………………………
- …………………………………………………………………………………
- …………………………………………………………………………………

# 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 | Action Results | Action Analysis |
|---|---|---|---|
| a. **installing the most recent editions of the programs of the course** | Done by the IT unit | ………………… | ………………… |
| b. **encouraging the students to install the desired programs in their smart phones** | Some students did. | ………………… | ………………… |
| ……………………… | ……………… | ………………… | ………………… |
| ……………………… | ……………… | ………………… | ………………… |

## 2. List what other actions have been taken to improve the course

- ………………………………………………………………………………………
- ………………………………………………………………………………………
- ………………………………………………………………………………………
- ………………………………………………………………………………………

## 3. Action Plan for Next Semester/Year

| Actions Recommended for Further Improvement | Intended Action Points (should be measurable) | Start Date | Completion Date | Person Responsible |
|---|---|---|---|---|
| a) Enhancing the keyboard skills | ……………………… | 26/4/1438 H | 10/7/1438 H | ……..… |
| b) ……………………… | ……………………… | …/…/1437 H | …/…/1437 H | ……..… |

**Course Instructor:**

Name:      Dr.Mohammed O. Mahgoub
Signature:  Mohammed........      Date Report Completed:  26../8../1438 H

**Program Coordinator:**

Name:      Omima Elnour Saeed
Signature:  …. Omima …...      Date Received :  26../8../1437 H

# Important Notes:

• A Course Report (CR) should be prepared for each course . In cases of delivering the course in more than one section, A separate CR of each section should be prepared . Then a Comprehensive CR should be prepared by The Course Coordinator ( Accompanied with all section CRs ) .

• The Comprehensive CR should be sent to the Programme quality Coordinator by the end of the same semester . To be discussed by the academic Department ( Programme ) Board .

• CR should be used for updating the course specification .