**Kingdom of Saudi Arabia**

**The National Commission for Academic Accreditation & Assessment**

**T5. COURSE REPORT**

**(CR)**

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.

**Course Report**

For guidance on the completion of this template refer to the NCAAA handbooks.

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| Institution : Faculty of Applied Sciences Date of CR : |
| College/ Department: of mathematics |

A Course Identification and General Information

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| --- | --- | --- | --- | --- | --- | --- |
| 1. Course title : **Sets and Algebraic Structures** Code # **4042401-4** | | | | | | |
| 2. Name of course instructor :  Location : **Main campus + Girls Sections** | | | | | | |
| 3. Year and semester to which this report applies: Second semester 1436/1437 H | | | | | | |
| 4. Number of students starting the course? Students completing the course? | | | | | | |
| 5. Course components (actual total contact hours and credits per semester): | | | | | | |
|  | Lecture | Tutorial | Laboratory/  Studio | Practical | Other: | Total |
| Contact  Hours | 60 H | ……… | ……… | ……… | ……… | 60 H |
| Credit | 4 H | ……… | ……… | ……… | ……… | 4 H |

B- Course Delivery

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| 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 |
| Sets, Operations on Sets, Cartesian product of sets | 8 |  |  |
| Mathematical Logic and Methods of Proof, integers, primes and division algorithm. | 8 |  |  |
| Relations and Mappings, Binary Operations and closure, commutative and associative properties, identity and inverse elements | 12 |  |  |
| Introduction of groups: examples | 8 |  |  |
| Cyclic Groups, permutations and the symmetric groups: examples | 8 |  |  |
| Rings: Definition and examples | 8 |  |  |
| Fields: Definition and examples | 8 |  |  |

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| 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 |
|  |  |  |

3. Course learning outcome assessment.

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| --- | --- | --- | --- |
|  | List course learning outcomes | List methods of assessment for each LO | Summary analysis of assessment results for each LO |
| 1 | Recognize basic knowledge of Sets theory and Mathematical Logic and Mathematical Proofs Namely:  1- To define and describe Sets, Operations on Sets, Cartesian product of sets  2- To state Mathematical Logic and Methods of Proof  3-To define and state Relations and Mappings, Binary Operations and closure, commutative  and associative properties, identity and inverse elements  4-To recognize groups  5- To describe and outline Cyclic Groups, permutations and the symmetric groups: examples  6-To define Rings  7-To define Fields | Lectures, tutorials and exams |  |
| 2 | Describe Relations, Mappings, Groups, rings and Fields. | Lectures, tutorials and exams |  |
| 3 | Evaluate operations on sets and prove mathematical Statements on Groups and Rings:  1- To explain and calculate Sets, Operations on Sets, Cartesian product of sets  2- To recognize Mathematical Logic and Methods of Proof  3- To develop Relations and Mappings, Binary Operations and closure, commutative  and associative properties, identity and inverse elements | Lectures and Tutorials  **Brainstorming:** A Method of solving problems in which all members of a group suggest ideas and then discuss them |  |
| 4 | Prove basic facts about rings, groups and fields. Namely:  4-To recognize groups  5- To describe and outline Cyclic Groups, permutations and the symmetric groups: examples  6-To recognize Rings  7-To recognize Fields | Lectures and Tutorials  **Brainstorming:** A Method of solving problems in which all members of a group suggest ideas and then discuss them |  |
| 5 | Demonstrate communication skills with the teacher and other students in the class. | Working together |  |
| 6 | Reading and solving basic facts of algebraic structures. | Working together. |  |

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

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| 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 They  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 using internet and using 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 using 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

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Distribution of Grades   |  |  |  |  | | --- | --- | --- | --- | | Letter  Grade | Number of  Students | Student  Percentage | Analysis of Distribution of Grades | | A |  |  |  | | B |  |  |  | | C |  |  |  | | D |  |  |  | | F |  |  |  | | Denied  Entry |  |  |  | | In Progress |  |  |  | | Incomplete |  |  |  | | Pass |  |  |  | | Fail |  |  |  | | Withdrawn |  |  |  | |
| 2. Analyze special factors (if any) affecting the results |

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| --- | --- |
| 3. Variations from planned student assessment processes (if any) (see Course Specifications). | |
| a. Variations (if any) from planned assessment schedule (see Course Specifications) | |
| Variation | Reason |
|  |  |
| b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specifications) | |
| Variation | Reason |
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| 4.Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator). | |
| Method(s) of Verification | Conclusion |
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D Resources and Facilities

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| 1. Difficulties in access to resources or facilities (if any) | 2. Consequences of any difficulties experienced for student learning in the course. |

E. Administrative Issues

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| 1 Organizational or administrative difficulties encountered (if any) | 2. Consequences of any difficulties experienced for student learning in the course. |

F Course Evaluation

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| 1 Student evaluation of the course (Attach summary of survey results) |
| a. List the most important recommendations for improvement and strengths |
| b. Response of instructor or course team to this evaluation |
| 2. Other Evaluation (eg. by head of department, peer observations, accreditation review, other stakeholders) |
| a. List the most important recommendations for improvement and strengths |
| b. Response of instructor or course team to this evaluation |

G Planning for Improvement

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

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| --- | --- | --- | --- | --- |
| 3. Action Plan for Next Semester/Year | | | | |
| Actions Recommended for Further Improvement | Intended Action Points  (should be measurable) | Start  Date | Completion  Date | Person Responsible |
|  |  |  |  |  |

Name of Course Instructor:

Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date Report Completed:\_\_\_\_\_\_\_\_\_\_\_\_

Program Coordinator: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date Received:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_