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| **College :** | **College of Engineering** |
| **Programme** | **Electrical Engineering** |
| **Course :** | **EE 271** |

**Course Report**

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| --- | --- | --- | --- | --- |
| Institution : | Majmaah University | | Date of CR | 5/2/2017. |
| College/ Department | | Engineering College/ Electrical Engineering | | |

**A Course Identification and General Information**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Course title: | | Principles of Electric Power and Machines Lab | | | | | Code | | | EE 271 | | | Section | | | 114 | | |
| 2. Name of course instructor | | | | Dr.Youcef and Eng.Mohammad Abdul Baseer | | | | | | | Location : | | | Complex Building | | | | |
| 3. Year and semester to which this report applies: | | | | | | | | | | 2016-2017/Semester-I | | | | | | | | |
| 4. Number of students starting the course? | | | | | | 11 | | Students completing the course? | | | | | | | | | 6 |  |
| 5. Course components: | | | | | | | | | | | | | | | | | | |
|  | Lecture | | Tutorial | | Laboratory/  Studio | | | | Practical | | | Other | | | **Total** | | | |
| **Contact**  **Hours** | xx | | xx | | 16 | | | | xx | | | xx | | | **32** | | | |
| **Credit** | xx | | xx | | 1 | | | | xx | | | xx | | | **1** | | | |

**B- Course Delivery:**

**1. Coverage of Planned Program**

|  |  |  |  |
| --- | --- | --- | --- |
| **Topics Covered** | **Planned** Contact Hours | **Actual** Contact Hours | **Reason for Variations (\*)** |
| Introduction: Introductory to lab equipment's and basic components  Determination of Low TL parameters | 2 | 2 | N/A |
| Single Phase Transformers (Determine Equivalent circuits) | 2 | 2 | N/A |
| O.C and S.C Test on Single phase transformers | 2 | 2 | N/A |
| Voltage and current measured on single phase A.C circuit | 2 | 2 | N/A |
| Active Power and frequency Measured on AC Circuit | 2 | 2 | N/A |
| Magnetization and Load characteristic on D.C Generator | 2 | 2 | N/A |
| Reactive power compensation at industrial load. | 2 | 2 | N/A |
| Three Phase Transformers | 2 | 2 | N/A |
| Measurement of No load ratio of the Three Phase Transformers | 2 | 2 | N/A |
| Introduction to Induction motor | 2 | 2 | N/A |

( \* ) 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 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

**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** |  |  |  |
| **1.2** |  |  |  |
| **1.3** |  |  |  |
| **1.4** |  |  |  |
| **1.5** |  |  |  |
| **1.6** |  |  |  |
| **b** | **Cognitive Skills** | | |
| **1** | Perform experiment to determine equivalent circuit parameters of single phase and three phase transformers. | Standardized Exams | I selected Q. No 4 & 5 from Mid-Exam-I  25%- Unsatisfactory  50%-Developing  25%- Satisfactory  Overall result 67% |
| **2** | Perform experiment to determine equivalent circuit of three-phase synchronous machine. | Standardized exams | I selected Q. No 3 from Final Exam  100% Unsatisfactory  0%-Developing  0%- Satisfactory  Overall result 33% |
| **3** | Perform experiment to determine of Transmission Lines (TL) parameters; TL loading characteristics; TL reactive power compensation; TL insulators voltage characteristics. | Standardized exams | I selected Q. No 3 from Final Exam  100% Unsatisfactory  0%-Developing  0%- Satisfactory  Overall result 33% |
| **4** | Perform experiment to analyze reactive power compensation for industrial loads | Standardized exams | I selected Q. No 3 from Final Exam  100% Unsatisfactory  0%-Developing  0%- Satisfactory  Overall result 33% |
| **5** | Perform parallel operation of synchronous generator*,* Starting of synchronous motor*,* Steady state operation of synchronous motor |  |  |
| **6** |  |  |  |
| **3.0** | **Interpersonal Skills & Responsibility** | | |
| **3.1** |  |  |  |
| **3.2** |  |  |  |
| **3.3** |  |  |  |
| **3.4** |  |  |  |
| **3.5** |  |  |  |
| **3.6** |  |  |  |
| **K** | **Communication, Information Technology, Numerical** | | |
| **1** | Use modern engineering tools such as power meters and PC integrated measuring systems to analyze equivalent circuit parameters of single phase and three phase transformers. | Standardized Exams | I selected Q.No 3 from Mid-Exam-II  40%- Unsatisfactory  0%-Developing  60%- Satisfactory  Overall result 73% |
| **2** | Use modern engineering tools such as power meters and PC integrated measuring systems to analyze equivalent circuit of three-phase synchronous machine | Behavior Observations and presentations | I selected Q. No 2 from Lab-Report  0% Unsatisfactory  50%-Developing  50%- Satisfactory  Overall result 75% |
| **3** | Use modern engineering tools such as power meters and PC integrated measuring systems to analyze the Transmission Lines (TL) parameters; TL loading characteristics; TL reactive power compensation; TL insulators voltage characteristics; |  |  |
| **4** | Use modern engineering tools such as power meters and PC integrated measuring systems to analyze reactive power compensation for industrial loads |  |  |
| **5** | Use modern engineering tools such as power meters and PC integrated measuring systems to analyze parallel operation of synchronous generator*,* starting of synchronous motor*,* steady state operation of synchronous motor |  |  |
| **6** |  |  |  |
| **5.0** | **Psychomotor** | | |
| **5.1** |  |  |  |
| **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.**

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| To add more experiments on fundamentals of electrical machines. |

**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 |
| Acquired and applied fundamental principles of science and engineering in this course. |  | Yes | ……………..…………………………. |
| Different Experiments can be done by the students for different components |  | Yes | ……………..…………………………. |
| Practical knowledge has given to the students by viewing the construction Transformers and DC machines |  | Yes | ……………..…………………………. |
| Encourage students to engage in communication use appropriate questioning to develop understanding among the students. |  | Yes | ……………..…………………………. |
| In certain phases of class the students should be given small individual tasks which: make students focus on the topic (problem), enable them to get information about the quality of their work directly. |  | Yes | ……………..…………………………. |

**C. Results**

**1. Distribution of Grades**

|  |  |  |  |
| --- | --- | --- | --- |
| Letter  Grade | Number of  Students | Student  Percentage | Analysis of Distribution of Grades |
| **A+** | 0 | 0 % |  |
| **A** | 0 | 0 % |  |
| **B+** | 1 | 12.5 % | The student was close to A-grade but didn’t achieve it. |
| **B** | 1 | 12.5 % | The students fail to apply formulae to calculate the parameters. |
| **C+** | 0 | 0 % |  |
| **C** | 0 | 0 % |  |
| **D+** | 3 | 37.5 % | The students fail to connect the circuit properly. |
| **D** | 1 | 12.5 % | The student has not finished one experiment in the lab. |
| **F** | 2 | 25 % | The students has missed the final exam as there grades were low in mid exams. |
| Denied  Entry | 0 | 0 % |  |
| In Progress | 0 | 0 % |  |
| Incomplete | 0 | 0 % |  |
| Pass | 6 | 75 % |  |
| Fail | 2 | 25 % |  |
| Withdrawn | 0 | 0 % |  |

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

|  |
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| * Two students had missed the final exams, so the result was dropped to 75%. |

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

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

|  |  |
| --- | --- |
| Variation | Reason |
| All the exams are scheduled on time in the same week. | Schedule on same week, so there is no variations in assessment. |
|  |  |
|  |  |

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

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

**4. Student Grade Achievement Verification:**

|  |  |
| --- | --- |
| Method(s) of Verification | Conclusion |
| The final exam papers are reviewed by other faculty member from the same department. | It was fair during evaluation, which improves the quality. |
|  |  |
|  |  |

**D. Resources and Facilities**

|  |  |
| --- | --- |
| Difficulties in access to resources  or facilities (if any) | Consequences of any difficulties experienced for student learning in the course |
|  | …………………………………………… |
| In this lab the accommodation is only for 10 students, if more than 10 students will register then it is difficult to manage it. | The group of students will work on same experiment due to lack of enough space in room. |
| …………………………………………… | …………………………………………… |

**E. Administrative Issues**

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

**F Course Evaluation**

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

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| --- |
| a. List the most important recommendations for improvement and strengths   1. The basic lines including information and skills course is intended to develop them clear for me. The requirements for success in the decision, including the duties that are building assessment them and Criteria for Rating clear for me. 2. Help me to be sources including office hours for faculty member teaching, references clear to me. The implementation of the decision and the things that I was asked to perform are consistent with the basic guidelines with the decision, was a member of the faculty committed to giving due in full), such as: began Lectures on time, the presence of the faculty member on a permanent basis, the setting Good material to assist in teaching. 3. The faculty member who is scheduled to present this full knowledge of the content of Decision. The faculty members are interested in the extent of the provision was certain to   me. It was all what is offered in a newly and useful decision) read texts, summaries   1. All it offers in the newly scheduled and useful) read texts, summaries, References, and the like. The sources that I needed in this decision are available whenever I need them.There was the efficient use of technology to support teaching in this decision. 2. I found encouragement to take questions and develop my own ideas in this decision. Helped things you asked me in this decision) classroom activities, laboratories, thus (in the development of knowledge and skills that course aims to teach. 3. The amount of work in this course proportional to the number of credit hours Ad hoc decision. It made me A walachtbarat degrees duties in this decision within a reasonable time. It gave me a degree of homework and tests in this decision within a reasonable time. It was correct and my duties and my exams fair and appropriate. And explained to me the connection between this decision and other Ermorteurat program) Section. 4. What I learned in this important Rapporteur Cevedna future. This course has helped me to improve my ability to think and solve problems instead of Only save the information. This course has helped me to improve my skills in working to form a team. This course has helped me to improve my ability to communicate effectively. I feel good in general, the quality of the decision. 5. Encouraged in this decision to give my best. |
| b. Response of instructor or course team to this evaluation   * Refer to the points (1-7) on the above students Evaluation survey there were total 8 students registered in this course but only 3 students attempted this survey, the arithmetic mean is (2.33 out of 5). This survey is difficult to evaluate as there is less number of students attempted. * Refer to point (8) I will motivate the students to do some demonstration on experiments so that the student will be encouraged and I can give my best. |

**2. Other Evaluation:**

|  |
| --- |
| a. List the most important recommendations for improvement and strengths  …………………………………………………………………………………………………………………………………………………………………………………………  …………………………………………………………………………………………… |
| 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 |
| 1. I recommend removing SLO (a, d, e) from this course. | Done | Result improved | Grades percentage result has improved from 63.63% to 73%.  (Refer CR for 1436-37 Sec 239 II-Sem) |
| 1. I recommend adding SLO (k) in this course. | Done | Result improved | Grades percentage result has improved from 63.63% to 83%.  (Refer CR for 1436-37 Sec 239 II -Sem) |
| 1. ………………………… | ……………… | ………………… | ………………… |
| 1. ………………………… | ……………… | ………………… | ………………… |

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

|  |
| --- |
| 1. Some experiments on fundamentals of dc machines should be added to improve the course. 2. Book title “Laboratory Manual for Electrical machines” by D.P Kothari and B.S.Umre. |

**3. Action Plan for Next Semester/Year**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Actions Recommended for Further Improvement | Intended Action Points  (should be measurable) | Start  Date | Completion  Date | Person Responsible |
| 1. To follow-up the students those who have not finished all the experiments in the lab. | If the student will not complete all the experiments in the lab then it will effect on result. | 5/2/2017 | 2/6/2107 | Supervisor |
| 1. Some experiments on fundamentals of dc machines should be added to improve the course. | Doing more experiments in lab will make practice to gain the practical knowledge to the students. | 5/2/2017 | 2/6/2107 | Supervisor |
| c) |  |  |  |  |
| d) |  |  |  |  |
| e) |  |  |  |  |

**Course Instructor:**

|  |  |  |  |
| --- | --- | --- | --- |
| Name: | Dr. Youcef and M.A.Baseer | | |
| Signature: |  | Date Report Completed: | 5/2/2017 |

**Program Coordinator:**

|  |  |  |  |
| --- | --- | --- | --- |
| Name: | Dr. Abdullah Almuhaisen | | |
| Signature: | ............................. | Date Received : | ....../…../2017 |

**Important Notes :**

* A separate Course Report (CR) should be submitted for every course and for each ( section " Male & Female" or Academic Programme 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 (Separate reports attached ) and given to the program coordinator At the end of each course
* Course Reports are to discuss by the academic ( Programme ) Department Council



