جامعة المجمعة
Majmaah University

Course Report

College: College of Engineering.
Programme Electrical Engineering
Course : Power Electronics

May 2017

This form compatible with NCAAA Edition

Course Report

Institution :	Majmaah University	Date of CR	5/27th /2017
College/ Department	.....Engineering / .....Electrical Engineering.....		

A Course Identification and General Information

1. Course title:	Power Electronics	Code EE 374	Section 371
2. Name of course instructor	Dr. Youcef Berrouche	Location	Yahiya Building
3. Year and semester to which this report applies:	2016/2017	Semester II	
4. Number of students starting the course?	17	Students completing the course?	17

5. Course components:

	Lecture	Tutorial	Laboratory/ Studio	Practical	Other	**Total**
Contact Hours	44	16	0	0	0	**60**
Credit	3	0	0	0	0	**3**

B- Course Delivery :

1. Coverage of Planned Program

Topics Covered	**Planned** Contact Hours	**Actual** Contact Hours	**Reason for Variations (*)**
Contacts with students + overview of the course	4	4	……..
Introduction, converters types	4	4	……..
Semi-conductor devices	4	4	……..
Rectifier: single-phase, half-wave rectifiers	4	4	……..
Rectifier: Bi-phase half-wave rectifiers	4	4.	……..
Single-phase, full-wave controlled rectifiers	4	4	……..
Poly-phase rectifiers, Three-Phase star rectifier, six-phase star rectifier	4	8	……..
AC voltage controller: introduction, naturally-commutated ac controller	4	4	……..
Pure resistive load, inductive load	4	**2**	According to the ministry of high education. The number of weeks has been reduced to 13 weeks
Forced-commutated ac controller, Pure resistive load, inductive load	4	**2**	According to the ministry of high education. The number of weeks has been reduced to 13

			weeks
DC chopper : introduction, chopper classes	4	**2**	According to the ministry of high education. The number of weeks has been reduced to 13 weeks
DC chopper with R-L back emf load	4	2	According to the ministry of high education. The number of weeks has been reduced to 13 weeks
Inverter : introduction, single-phase inverter	4	2	According to the ministry of high education. The number of weeks has been reduced to 13 weeks
Three-Phase inverter, pulse width modulation	4	4	According to the ministry of high education. The number of weeks has been reduced to 13 weeks

(*) 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
2.0	**Cognitive Skills**		
2.2	The student will be able to solve engineering problems related to inverters Solve engineering problems related ac-ac converters and rectifiers Solve engineering problems related to dc-dc converters and resonant converters	Final exam Q 4 Q 5	76% and 74%
2.3	Design ac-ac converters, rectifiers, inverters, dc-dc converters and resonant converters for power system applications.		
4.0	**Communication, Information Technology, Numerical**		

List course learning outcomes		List methods of assessment for each LO	Summary analysis of assessment results for each LO
4.1	The student will be able to determine the parameters of power semiconductor devices.	Final exam Q 1	974%

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

NA

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	
Revision of some principles and rules in trigonometric and integral calculus.		Y	There are no difficulties.
Introducing power converter by citing applications in power systems and machines drives.		Y	Parallel laboratory lecture are required.

C. Results

1. Distribution of Grades

Letter Grade	Number of Students	Student Percentage	Analysis of Distribution of Grades
A+	2	12%	The distribution of the grades is normal distribution
A	1	6%	The distribution of the grades is normal distribution

B+	0	0%	The distribution of the grades is normal distribution
B	2	12%	The distribution of the grades is normal distribution
C+	0	0%	The distribution of the grades is normal distribution
C	5	29%	The distribution of the grades is normal distribution
D+	1	6%	The distribution of the grades is normal distribution
D	5	29%	Most of the students getting D are from the old plan
F	1	6%	The distribution of the grades is normal distribution
Denied Entry	0	0 %	
In Progress	0	0 %	
Incomplete	0	0 %	
Pass	16	94%	The results are within the normal distribution. The pass percentage is good and there is no need for further recommendation or actions.
Fail	1	6%	
Withdrawn	0	0%	

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

- Drawbacks to apply knowledge and skills of mathematics to solve problems related to power converters.
- The absence of students during the weeks of first and second midterm exams affect considerably their performances and consequently their results.

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

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

Variation	Reason

13/16 weeks are delivered	Based on the instructions of ministry of higher education the semester was cut shorted.
None	……
None	……

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

Variation	Reason
None	……
None	……
None	……

4. Student Grade Achievement Verification:

Method(s) of Verification	Conclusion
All final papers are reviewed by independent reviewer from the department who will double check the sum of the total marks	Level of fairness in correction is fairly high
Grades are approved by Head of department and the dean of the Engineering College.	Grades approved by Head of department and the dean of the Engineering College

D. Resources and Facilities

Difficulties in access to resources or facilities (if any)	Consequences of any difficulties experienced for student learning in the course
The classroom was not equipped with operated smart board.	The learning process was not completely effective.
The required textbook (Hard copy) is not available in the university library.	None (Softcopy available)

E. Administrative Issues

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

F Course Evaluation

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

All the results scores are more than 3. No actions will be token
NA

2. Other Evaluation :

NA
NA

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) Textbook not available.	None	None	
b) Interactive teaching methods	None because of the short time		

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

None

3. Action Plan for Next Semester/Year

Actions Recommended for Further Improvement	Intended Action Points (should be measurable)	Start Date	Completion Date	Person Responsible
Hard copies of Textbook	At least 10 hard copies of textbook	27/05/2017	30/12/2017	UPC
Interactive teaching methods	The instructor will use case study and group discussion	01/01/2017	30/06/2017	The instructor

Course Instructor:

Name: Youcef berrouche
Signature: ..... Date Report Completed: 27th /05/2017

Program Coordinator:

Name: .....
Signature: ..... Date Received : ...../…../……

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