

المركز الوطني للتقويم والاعتماد الاكاديمي National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)



Course Specifications

Institution:University of Tabuk	Date: 18-4-2019		
College/Department : Physics, science			
A. Course Identification and General Information			
1. Course title and code: Electric Circuit	its, PHYS 312		
2. Credit hours: 3hour			
3. Program(s) in which the course is off	fered.		
(If general elective available in many pr	ograms indicate this rather than list programs)		
4. Name of faculty member responsible	e for the course Dr Rabaa Said Bousbih		
5. Level/year at which this course is off	fered: 7, year 4		
6. Pre-requisites for this course (if any)	:PHYS 202 and MATHS.200		
7. Co-requisites for this course (if any):	:		
8. Location if not on main campus:			
On main campus			
9. Mode of Instruction (mark all that ap	oply):		
a. traditional classroom *	What percentage? 100%		
b. blended (traditional and online)	What percentage?		
c. e-learning	What percentage?		
d. correspondence	What percentage?		
f. other	What percentage?		
Comments:			



B Objectives

1.	What is the main purpose for this course?
	Students will be able to understand and compare the different theories for solving the
	electronics circuits though mathematical methods, Comprehension, Homework, Application
	of electronic theory in various fields.
	By the end of the electronic circuit module the student will demonstrate the ability to apply
	his basic knowledge and cognitive skills to solve problems and understand some related areas
	beyond the electronic circuit course and appreciate the major supporting evidence based on
	text-books reviews and electronic learning materials. Also, students will have the
	experience through small group teaching and group discussion to analyses any problem
	related to electronic circuit and to communicate with other students and teaching staff.

- 2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)
- Teaching material in a lectures or power point available to students
- □ Increased use of electronic based reference material.
- Content following the most recent research in the field
- Some of the topics are planned to be added to related modules
 - Use of recent illustrating overhead projectors, electronic screen in teaching
 - Tutorials are improved from questions asking to discussion of Electric circuit

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description: Ohm's law, Kirchhoff' Law, DC circuits, capacitance and inductors, AC circuits, Phasors, Thevenin and Norton theorems, Diodes, Smoothed circuits, power supplies, Transistors.

List of Topics	No of	Contact hours
	Weeks	
	1	3
Basic concept of electric circuit		



Current, Voltage, Circuit elements	2	3
Ohm's law, Kirchhoff's Law	3	3
Nodal Analysis Mesh Analysis	1	2
Notal Analysis, Wesh Analysis	7	5
Superposition Theorem, Source transformation	5	3
Revision+ First Exam	6	3
THEVENIN'S THEOREM and NORTON'S THEOREM	7	3
Capacitors and its connection	8	3
Inductors and its connection	9	3
First order circuits	10	3
Revision+ Second Exam	11	3
Second-Order Circuits	12	3
AC Circuits	13	3
Transistors and Transistors applications 1	14	3
Revision final exam	15	3

2. Course components (total contact hours and credits per semester): Laboratory/ Lecture Tutorial Practical Other: Total Studio Contact Planed 45 hr 45 hr Actual 45 hr 45 hr Hours Planed 3 3 Credit 3 3 Actual

3. Additional private study/learning hours expected for students per week. 6 hr

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy



On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains	Course Teaching	Course Assessment
#	And Course Learning Outcomes	Strategies	Methods
1.1	Define the physical quantities, physical phenomena, and basic principles of electric circuits.	 Lectures In-class discussions Exercises 	 Exams. Homework. Classwork. Quizzes.
1.2	- Develop a conceptual understanding of the principles of Electronic circuits.	• Home works	
2.0	Cognitive Skills		
2.1	Apply the laws of physics to calculate some quantities.	Lectures.Problem solving	 Presentations Homework.
2.2	Solve problems in physics by using suitable mathematics.	Small group workPresentations	• Classwork.
2.3	Analyse and interpret quantitative results.		
2.4	Derive the physical laws and formulas.		
3.0	Interpersonal Skills & Responsibility		1
3.1 3.2	Work effectively in groups and exercise leadership when appropriate Show responsibility for self-learning to be aware with recent developments in physics	• Awareness of time management in completing their reports	• Respecting
3.3	-Encourage students to think critically and involve in discussions with the instructor in classroom.	 Encourage students to help each other Group assignments Lectures Case study Small group work Whole group discussion. 	 Giving clear and logical arguments Oral exams Logical reasoning
4.0	Communication, Information Technology, Numerica	ıl	
4.1	 Develop the scientific language skills Develop communication skills with others via websites or e-mail 	Whole group discussion. Lecture. Presentations	E-mail correspondences. Exams. Homework.
5.0	Psychomotor		1



5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Student's participation, homework assigned questions, and evaluation	15	10%
2	- Two midterm tests	7 and 11	25%
3	- Final examination (40%).	16	40%



D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Students can approach during the office hours for the faculty member to ask questions to clarify some points missed during the lecture.

- Students can communicate with the teaching staff through the website and ask questions related to all aspects of the lesson. The students will get written answers as soon as possible, The teaching staff are available during all the day in the faculty and are ready to clarify any points related to the course.

- The teaching staff are available during all the day, where they are ready to clarify any points related to the course.

E Learning Resources

1. Required Text(s):

Fundamentals of Electronics Circuits (with CD-ROH), By Charles Alexander, HatheSadika, McGraw Hill (2003)

2. Essential References

A text book of electronics by L.S.Kakani et.al (1991).

3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List)

4-.Electronic Materials, Web Sites etc

5- Other learning material such as computer-based programs/CD, professional standards/regulations



F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Lecture rooms, laboratories, etc.)

- Classrooms ready and equipped with educational media

2. Computing resources

- Data show and internet.

- Computer and microphone in Lecture rooms

3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list)

- Video cameras linked to TV circuits

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Regular evaluation of the theoretical and practical parts of the course to identify the weaknesses areas

- Performance appraisal form filled up by each student to show level of fulfilment

- Confidential completion of standard course evaluation questionnaire

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- A statistical regular review and analysis of the students' achievement in the department.

- Prepare a questionnaire which should be filled by the students at the end of the term. The questionnaire should be after that analyzed and carefully studied.

3 Processes for Improvement of Teaching

- Provide training and workshop opportunities for the teaching staff to improve their teaching strategies.

- Form committees to follow up progress and work on improvement.

- Provide opportunities to improve academic courses and research through conferences.



- Provide the teaching staff members with all the references and electronic resources.
- Updating through more reading books and articles related to the course

- Improve relations between instructor and students.

4. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Check marking of the answer sheets of examination papers with other colleagues

- Check progress level of the students (this can be done by an independent teacher by reviewing students' records and compare the students' work with another from a different institute).

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Student's feedback on the quality of the course.

- Consulting other faculty members or collaborators in overseas universities for their views on the method of quality of improvement

- Check other universities web sites to compare our lectures with them

- Compare the syllabus with the syllabus of standard universities.

- Form a specialized committee from the department to review the progress of teaching and update the resources

- Consult distinguished students and discuss with them positive and negative points in Lectures.

Name of Course Instructor: Dr Rabaa Said Bousbih

Signature: ____ Rabaa Said Bousbih ____ Date Specification Completed: ____18-4-2019_

Program Coordinator: Dr. Fahad Alharbi Signature: *Dr. Fahad Alharbi* Date Received: 19/4/2019