

ATTACHMENT 5.

Kingdom of Saudi Arabia

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

**T6. Course Specifications
(CS)**

Course Specifications

Institution	Najran University	Date	30/10/1435 H
College/Department Electrical Engineering Program			

A. Course Identification and General Information

1. Course title and code: Signals and Systems : 321EE3			
2. Credit hours 3 (3, 0, 1)			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course Dr. Mohammad Shahed Akond			
5. Level/year at which this course is offered 7 th Semester 3 rd year			
6. Pre-requisites for this course (if any) EE 214 Electric Circuit Analysis			
7. Co-requisites for this course (if any)			
8. Location if not on main campus			
9. Mode of Instruction (mark all that apply)			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	80
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	
c. e-learning	<input checked="" type="checkbox"/>	What percentage?	20
d. correspondence	<input type="checkbox"/>	What percentage?	
f. other	<input type="checkbox"/>	What percentage?	
Comments:			

B Objectives

<p>1. What is the main purpose for this course?</p> <p>By the completion of this course, the student should be able to :</p> <p>1) Use the different theories to analyze:</p> <ol style="list-style-type: none"> 1. Analog Signals 2. Digital Signals <p>2) Simulate the signal in both time and frequency domains</p>
<p>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)</p> <p>The course is a basic course and its alteration will not give any benefit; however, re-checking of the course content is essential for its suitability in the upcoming courses of control, communication and Digital Signal Processing.</p>

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

Course Description:

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
Motivation and Applications;	Week 1,2	6 hours
Signal Classifications, Signal Operations, Singularity Functions;	3, 4	6 hours
Linear time-Invariant Systems and Convolution;	5, 6	6 hours
Correlation;	7	3 hours
Fourier Series for continuous and discrete time signals;	8, 9	6 hours
Applications of Fourier series in circuit analysis	10, 11	6 hours
Fourier Transform for continuous and discrete time signals	12, 13	6 hours
Laplace transform and applications; Introduction to z-transform.	14, 15	6 hours

2. Course components (total contact hours and credits per semester):
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	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	45	15	-----	-----	-----	60
Credit	3	-----				3

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

4 hours

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 And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Distinguish between continuous and discrete time signal and systems.	<ul style="list-style-type: none"> Lectures Tutorials Assignment 	Class Work Home Assignment Quizzes Mid term and Final Exams.
1.2			
2.0	Cognitive Skills		
2.1	Manipulate the different transform-domain techniques.	Solve various types of problems from the text books in categorical manner in the following order: <ul style="list-style-type: none"> Examples Basic Problems 	<ul style="list-style-type: none"> Home assignments. Quizzes Two Midterm exams.

		<ul style="list-style-type: none"> Mathematical problems and Advanced problems. 	<ul style="list-style-type: none"> Final Exams at the end of the semester.
2.2	Manipulate the different transform-domain techniques.	<p>Solve various types of problems from the text books in categorical manner in the following order:</p> <ul style="list-style-type: none"> Examples Basic Problems Mathematical problems and Advanced problems. 	<ul style="list-style-type: none"> Home assignments. Quizzes Two Midterm exams. Final Exams at the end of the semester.
3.0	Interpersonal Skills & Responsibility		
3.1			
3.2			
4.0	Communication, Information Technology, Numerical		
4.1	Analyze continuous linear time invariant systems using the concept of convolution.	Ask the students to use the office hours to ask more about their subject.	<ul style="list-style-type: none"> Attendance record for the students. Mid Term and final exams. Quizzes and Home Works.
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)
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LOs #	1.1	1.2		2.1		3.2		4.1	
1.1									
2.1									

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments	Scheduled	14 %
2	First Mid-Term exam	7	18 %
3	Second Mid-Term exam	13	18 %
4	Final Term exam	The final of the term	50 %
5			
6			
7			
8			

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)

6 hours as of office hours

E Learning Resources

1. List Required Textbooks
Oppenheim, Willsky and Nawab, "Signals and Systems", Prentice-Hall, 1997.
2. List Essential References Materials (Journals, Reports, etc.) Haykin and Veen, "Signals and Systems", John Wiley, 1998.
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Introduction to MATLAB signal and system tools

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture Room for 20 students
2. Computing resources (AV, data show, Smart Board, software, etc.) data show, Smart Board
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

<p>1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching</p> <ul style="list-style-type: none"> i. Complete course evaluation questionnaire by the students. ii. Open discussion for the students to touch their weak and strong points in the subject. iii. Feeding back from the mid-term exam records.
<p>2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department</p> <p>Seminars for the teacher, to show his lectures arrangement and progress in front of all the staff members in the department.</p>
<p>3 Processes for Improvement of Teaching</p>
<p>4. Processes for Verifying Standards of Student Achievement (e.g. 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)</p> <p>Re-check the final term exams for some random students by another faculty member in the same field subject inside the department</p>
<p>5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.</p> <p>Improve for the subject course contents by an external committee members in the same field of study in another institution.</p>

Name of Instructor: Dr. Akram Elmitwally_____

Signature: _____ Date Report Completed: _____

Name of Course Instructor _____

Program Coordinator: _____

Signature: _____ Date Received: _____