



Course Assessment Report

Instructor: Dr. Salah M. Rahal
Course Code: CEN 340
Section: 2929
Semester and Academic Year: Summer Semester, 1436-1437
Course Format: (3+0+1)
Enrollment:
Class Average: /5.00

1. Course Assessment Methods

Midterm 1	20%	
Midterm 2	20%	
Quiz 1	10%	(Homeworks & activities are included)
Quiz 2	10%	(Homeworks & activities are included)
Final	40%	

2. Course Learning Outcomes (Professor)

Course Learning Outcome	Covered
1 Use MATLAB in signals and systems field.	✓
2 Give mathematical description of main signals*1, define basic time-domain operations on signals*2, and describe signals characteristics*3.	✓
3 Determine types of systems and define basic systems properties such as system with/without memory, invertibility, causality, stability, time invariance, and linearity.	✓
4 Describe Linear Time-Invariant "LTI" system by its unit impulse response, perform the convolution, compute the output for any arbitrary input signal, and describe the properties of LTI systems.	✓
5 Use differential/difference equations for analyzing an important class of LTI systems and determine the system output.	✓
6 Use Fourier Series and its properties for analyzing periodic signals, define the LTI system output for any periodic input signal, and describe the filtering effect.	✓
7 Use Fourier Transform, its inverse, and its properties for analyzing aperiodic signals, and define the LTI system output for any aperiodic input signal.	✓
8 Define Laplace Transform, its Inverse and its properties and apply them to LTI systems.	✓
9 Explain Modulation and Demodulation of AM, PM and FM systems.	✓

*1 Such as sinusoidal signals, complex exponential, unit impulse and step functions.

*2 Such as time shift, time reversal, time scaling.

*3 Such as causality, periodicity, odd/even signals, and power/energy.

3. Course Learning Outcomes (Student)

<i>Course Learning Outcome</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Attainment Percentage</i>
1	11	14	2	3	0	82%
2	12	15	2	1	0	85%
3	11	12	6	1	0	82%
4	14	10	6	0	0	85%
5	11	11	8	0	0	82%
6	13	11	6	0	0	85%
7	14	9	5	2	0	83%
8	12	12	6	0	0	84%
9	10	5	8	5	2	71%

4. Course Outcome attainment level

<i>Course Outcome</i>	<i>Assessment</i>	<i>E</i>	<i>G</i>	<i>S</i>	<i>U</i>		<i>Sub %</i>	<i>ME</i>	<i>Overall ME</i>
1	HW 1	24	6	0	1	4.71	94.19	96.77	83.87
	HW 2	28	2	0	1	4.84	96.77	96.77	
	HW 4	27	2	0	2	4.74	94.84	93.55	
	QUIZ 1	11	10	6	4	4.12	82.4	67.74	
	MID 1	17	10	1	3	4.37	87.33	87.1	
	MID 2	25	0	0	6	4.42	88.39	80.65	
	FINAL	13	7	8	3	4.3	86.09	64.52	
2	HW 3	29	1	0	1	4.87	97.42	96.77	79.03
	HW 4	27	2	0	2	4.74	94.84	93.55	
	QUIZ 1	18	2	6	5	4.32	86.4	64.52	
	MID 1	11	11	2	7	3.9	77.93	70.97	
	MID 2	13	10	7	1	4.46	89.17	74.19	
	FINAL	23	0	7	1	4.88	97.5	74.19	
3	HW 5	23	6		2	4.61	92.26	93.55	86.02
	MID 2	21	6	0	4	4.42	88.39	87.1	
	FINAL	16	8	0	7	4.06	81.29	77.42	
4	HW 6	22	6	0	3	4.52	90.32	90.32	68.55
	QUIZ 2	1	5	3	22	2.46	49.29	19.35	
	MID 2	18	7	1	5	4.27	85.33	80.65	
	FINAL	14	12	1	4	4.2	84	83.87	
5	HW 7	28	2	0	1	4.84	96.77	96.77	

	MID2	15	6	0	10	3.84	76.77	67.74	63.44
	FINAL	8	0	12	11	3.26	65.26	25.81	
6	HW 8	25	5	0	1	4.74	94.84	96.77	65.81
	HW 9	27	1	0	3	4.68	93.55	90.32	
	QUIZ 2	8	5	2	16	3.17	63.45	41.94	
	MID 2	7	16	1	7	3.77	75.33	74.19	
	FINAL	1	7	6	17	2.68	53.6	25.81	
7	HW 10	24	4		4	4.5	90	90.32	55.91
	MID2	9	0	12	10	3.42	68.42	29.03	
	FINAL	5	10	7	9	3.46	69.17	48.39	
8	HW 11	27	3	0	1	4.81	96.13	96.77	93.55
	HW 12	27	3	0	1	4.81	96.13	96.77	
	FINAL	15	12	1	3	4.3	86	87.1	
9	FINAL	23	0	0	8	4.23	84.52	74.19	74.19

Final Grades

Grade	Number
A+	2
A	2
B+	5
B	3
C+	9
C	5
D+	2
D	1
F	3
W	2

5. Mapping of Course Outcomes to Student Outcomes

Course Outcome	Student Outcomes										
	a	b	c	d	e	f	g	h	i	j	k
1	✓										✓
2	✓										✓
3	✓										
4	✓				✓				✓		✓
5	✓				✓				✓		✓
6	✓				✓				✓		✓
7	✓				✓				✓		✓
8	✓				✓				✓		✓
9	✓				✓						✓

6. Mapping of Course Assignments and Exams to Student Outcomes

Assignment	Student Outcomes										
	a	b	c	d	e	f	g	h	i	j	k
Mid 1	✓										✓
Mid 2	✓				✓				✓		✓
Quiz 1	✓										✓
Quiz 2	✓				✓				✓		✓
HW 1	✓				✓						✓
HW 2	✓				✓						✓
HW 3	✓				✓						✓
HW 4	✓				✓				✓		✓
HW 5	✓				✓				✓		✓
HW 6	✓				✓				✓		✓
HW 7	✓				✓				✓		✓
HW 8	✓				✓				✓		✓
HW 9	✓				✓				✓		✓
HW 10	✓				✓				✓		✓
HW 11	✓				✓				✓		✓
HW 12	✓				✓						✓
Final	✓				✓				✓		✓

7. Observation of Professor

- Significant interest of students to follow this course.

8. Learning Barriers of Students and Proposed Modifications for Enhanced Learning

- Mathematical background need to be improved.
- A deep reviewing of topics between this course and CEN352 is suggested.

Name of Course Instructor: Dr Salah M. Rahal

Signature: _____ Date Report Completed: December 1, 2016

Program Coordinator: _____

Signature: _____ Date Received: _____