

## 1. Course Title:

### Advanced Electrical Networks

#### EET 324 – 4 Credits

EET Program Requirement

Prerequisite: EET 312, Math 172

This is a Technical content course under ABET Criterion 5

## 2. Faculty Member Information:

Instructor:

Office: Hebel 101

Phone: 509-963-2289

E-mail: holdenl@cwu.edu

## 3. Course Description:

Analysis and design of operational amplifier circuits including amplifiers, comparators, active filters, controls, and instrumentation devices.

## 4. Textbook and other required materials for the course:

Stanley, William D., *Network Analysis with Applications*, 4<sup>th</sup> Ed, Prentice Hall, 2003

## 5. Specific Learner and Expressive Outcomes and Assessment Strategies:

ABET Outcome Criteria #	Learner Outcomes	Assessment
	1. The student will determine capacitive and inductive transients and equivalent circuits.	The student will complete homework assignments, a written test, and circuit simulations.
9.a.1.	2. The student will determine the initial and DC steady-state circuit response for first-order circuits.	The student will complete homework assignments, a written test, and circuit simulations.
3.a. 9.c.2.	3. The student will determine the Laplace transforms given time domain functions.	The student will complete homework assignments, a written test.
3.b 9.c.2.	4. The student will determine the inverse Laplace transforms given s-domain functions.	The student will complete homework assignments, a written test.
9.A.4 9.c.2.	5. The student will apply Laplace transform methods to obtain complete first-order circuit solutions	The student will complete homework assignments, a written test.
3.f.	6. The student will determine a given circuits transfer function and use it to determine circuit operation and relationship characteristics.	The student will complete homework assignments, a written test.
	7. The student will determine the poles and zeros of a circuits transfer function and evaluate their effect on the systems stability.	The student will complete homework assignments, a written test.

## 6. Course Topics and Schedule:

<b>Topic</b>	<b>Hours</b>
• Capacitive and inductive transients and equivalent circuits	4 hours
• Initial and DC steady-state circuit response for first-order circuits	6 hours
• Laplace transforms	6 hours
• Laplace transforms given s-domain functions.	6 hours
• Laplace transform methods to obtain complete first-order circuit solutions	6 hours
• Circuit transfer functions in determining circuit operation and characteristics	8 hours
• Poles and zeros of a circuits transfer function	4 hours

## 7. Grading:

Grade	%	Grade	%	Grade	%	Grade	%	Grade	%
		B+	87 - 90	C+	77 - 80	D+	67 - 70	F	< 60
A	94 - 100	B	83 - 87	C	73 - 77	D	63 - 67		
A-	90 - 94	B-	80 - 83	C-	70 - 73	D-	60 - 63		

### Grading Percentages

Test 1	30%
Test 2	30%
Homework	30%
Attendance	10%

## 8. ADA Statement:

Students who have special needs or disabilities that may affect their ability to access information and or material presented in this course are encouraged to contact me or Robert Harden, ADA Compliance Officer, Director, ADA Affairs and Students Assistance on campus at 963-2171 for additional disability related educational accommodations.