

# EGR/EE

ORAL ROBERTS UNIVERSITY  
Engineering, Computer Science, Physics & Mathematics Department

DEGREE PLAN SHEET 2009-2010

TOTAL HOURS REQUIRED 137  
Hours in Major 41  
Hours in Concentration 40  
Hours in General Education 56

DEGREE: Bachelor of Science in Engineering  
MAJOR: ENGINEERING - Electrical Concentration

Name \_\_\_\_\_  
ID \_\_\_\_\_ Date \_\_\_\_\_  
Telephone \_\_\_\_\_ Email \_\_\_\_\_  
Advisor \_\_\_\_\_

SEMESTER TAKEN	COURSE CODE	COURSE TITLE	CREDIT HOURS	SEMESTER TAKEN	COURSE CODE	COURSE TITLE	CREDIT HOURS
<u>FRESHMAN Semester 1</u>				<u>FRESHMAN Semester 2</u>			
_____	HPER 001	Health Fitness I	1	_____	HPER 002	Health Fitness II	1
_____	COMP 102 *	Reading/Writing in Liberal Arts	3	_____	COM 101	Oral Communication	3
_____	THE 103	Charismatic Life & Healing Ministry	3	_____	HUM 101	Humanities: Humanitas	3
_____	MAT 201 **	Calculus I	4	_____	MAT 202	Calculus II	4
_____	CHE 111	General Chemistry I	3	_____	PHY 111 **	Physics I	3
_____	CHE 111	General Chemistry I Lab	1	_____	PHY 111 **	Physics I Lab	1
_____	EGR 101	Introduction to Engineering	2	_____	EGR 140	Engineering Graphics	2
_____	PRF 070	Swimming Proficiency	0	_____	EGR 100	Engineering /Physics Seminar	0
_____	EGR 100	Engineering/Physics Seminar	0				17
_____	GEN 099	Whole Person Assessment	0				
			17				

<u>SOPHOMORE Semester 3</u>				<u>SOPHOMORE Semester 4</u>			
_____	HPER _____	HPER Activity	0.5	_____	HPER _____	HPER Activity	0.5
_____	MAT 321	Calculus of Functions of Several Variables	4	_____	MAT 211	Differential Equations	3
_____	PHY 112	Physics II	3	_____	EGR 210	Network Analysis I	3
_____	PHY 112	Physics II Lab	1	_____	EGR 210	Network Analysis I Lab	1
_____	EGR 252	Engineering Computational Methods	3	_____	EGR 231	Heat & Thermodynamics	3
_____	EGR 221	Mechanics I: Statics	3	_____	EGR 222	Mechanics II: Dynamics	3
_____	BLIT 110	Survey of Old Testament Literature	3	_____	CMPE 340	Digital Systems Design	3
_____	EGR 100	Engineering/Physics Seminar	0	_____	CMPE 340	Digital Systems Design Lab	1
			17.5	_____	EGR 100	Engineering/Physics Seminar	0
							17.5

## SUMMER

_____	BLIT 120	Survey of New Testament Literature	3
_____	HUM _____	+++ Humanities Options	3

<u>JUNIOR Semester 5</u>				<u>JUNIOR Semester 6</u>			
_____	HPER _____	HPER Activity	0.5	_____	HPER _____	HPER Activity	0.5
_____	_____ +	Social Sciences Elective	3	_____	COMP 303	Critical Reading and Writing	3
_____	HUM _____	+++ Humanities Options	3	_____	HUM _____	+++ Humanities Options	3
_____	EE 311	Network Analysis II	3	_____	MAT _____	Math Elective (upper division)	3
_____	EE 321	Electronics I	3	_____	EE 322	Electronic II	3
_____	EE 321	Electronics I Lab	1	_____	EE 322	Electronic II Lab	1
_____	EGR 330 #	Control Systems	3	_____	_____ ++	Technical Elective	3
_____	EGR 100	Engineering/Physics Seminar	0	_____	EGR 100	Engineering/Physics Seminar	0
			16.5				16.5

<u>SENIOR Semester 7</u>				<u>SENIOR Semester 8</u>			
_____	HPER _____	HPER Activity	0.5	_____	HPER _____	HPER Activity	0.5
_____	HIS 101	American History	3	_____	GOV 101	American Government	3
_____	EGR 461	Engineering Management & Economy	2	_____	PHY 211	Modern Physics	3
_____	EE 360	Electromagnetic Theory	3	_____	PHY 211	Modern Physics Lab	1
_____	_____ ++	Technical Elective	3	_____	_____ ++	Technical Elective	3
_____	_____ ++	Technical Elective	3	_____	EGR 499	Senior Design & Research II	2
_____	EGR 498	Senior Design & Research I	2	_____	EGR 100	Engineering/Physics Seminar	0
_____	EGR 100	Engineering/Physics Seminar	0	_____		Participation in Graduation Exercises	0
			16.5				12.5

## KEY

- \* If the student is required to enroll in English (COMP 101), Reading and Writing in the Liberal Arts (COMP 102) must be taken before Semester 6 and one of the other General Education courses will be taken by correspondence or summer school.
- \*\* Students who need Precalculus in Semester I should take Calculus I in the spring and Physics I in the summer.
- + BUS 201 Principles of Economics I (recommended), PSY 201 Principles of Psychology, SOC 101 Introduction in Sociology, FIN 244 Personal Financial Planning, SOC 201 Marriage and Family, MUS 208 Music in World Cultures, SWK 202 Introduction to Social Work, or SOC 323 Child and Family in the Social Context.
- ++ Please see back of degree plan sheet for listing of courses available as electives.
- # May be taken in fall of senior year (Switched with technical elective).
- +++ See list of Humanities (HUM) options on the back.

**Bachelor of Science in Engineering 2009-2010**  
**Electrical Engineering Concentration (EE)**

<b><u>General Education</u></b>			<b><u>Credit Hours</u></b>
Whole Person Assessment (GEN 099)			0
English (COMP 102, 303)			6
Oral Communication (COM 101)			3
Humanities (HUM 101 plus three of the following: HUM 222*, 233*, 244*, 250, 255, 260, 270, 301*, 333*, ART 103, ART 104, MUS 300, DRAM 215, COMP 101) *At least one course must be chosen from courses marked with asterisks.			12
Biblical Literature (BLIT 110, 120)			6
Theology (THE 103)			3
Chemistry (CHE 111 lecture and lab)			4
Physics (PHS 111 lecture and lab)			4
Mathematics (MAT 201)			4
American History (HIS 101)			3
American Government (GOV 101)			3
Social Sciences Elective (BUS 101 recommended)			3
Health, Physical Education, and Recreation (Health Fitness I & II, swimming course or proficiency, six electives)			5
<b><u>General Education Total</u></b>			<b>56</b>
<b><u>Cognate</u></b>			
MAT	202	Calculus II	4
MAT	211	Differential Equations	3
MAT	321	Calculus of Functions of Several variables	4
MAT		Electives (upper division)	3
<b><u>Cognate Total</u></b>			<b>14</b>
<b><u>Major</u></b>			
EGR	100	Engineering/Physics Seminar	0
EGR	101	Introduction to Engineering	2
EGR	140	Engineering Graphics	2
EGR	210	Network Analysis I (lecture & lab)	4
EGR	221	Mechanics I: Statics	3
EGR	231	Heat and Thermodynamics	3
EGR	461	Engineering Management and Economy	2
EGR	498	Senior Design and Research I	2
EGR	499	Senior Design and Research II	2
PHY	112	Physics II (lecture & lab)	4
EGR	252	Engineering Computational Methods	3
<b><u>Major Total</u></b>			<b>27</b>
<b><u>Electrical Engineering Concentration (EE)</u></b>			
PHY	211	Introduction to Modern Physics	4
EGR	222	Mechanics II: Dynamics	3
EGR	330	Control Systems	3
EE	311	Network Analysis II	3
EE	321	Electronics I	4
EE	322	Electronics II	4
EE	360	Electromagnetic Theory	3
CMPE	340	Digital Systems Design	4
<i>Choice of four of the following:</i>			12
EE	325	Design W/ Standard Components	
EE	361	Power Systems Analysis	
EE	363	Electromechanical Devices	
EE	450	Digital Signal Processing	
EE	462	Design of Power Systems	
EGR	331	Design of Control Systems	
CMPE	441	Microprocessor Systems Design	
CMPE	443	Computer Architecture	
<b>Electrical Engineering Concentration Total</b>			<b>40</b>
<b><u>DEGREE TOTAL</u></b>			<b>137</b>

*\*All students must pass the seminar course each semester they are enrolled in this major.*