

ORAL ROBERTS UNIVERSITY
DEGREE: **Bachelor of Science in Engineering**
MAJOR: **Engineering—Mechanical**
Engineering Concentration (EGR/MEC)

DEGREE PLAN SHEET **2014-2015**
Engineering Department

TOTAL HOURS REQUIRED 136
Hours in Major 41
Hours in Concentration 40
Hours in General Education 56

Name _____
Z# _____ Date _____
Telephone _____ Email _____
Advisor _____

SEMESTER TAKEN	COURSE CODE	COURSE TITLE	CREDIT HOURS	SEMESTER TAKEN	COURSE CODE	COURSE TITLE	CREDIT HOURS
FRESHMAN Semester 1				FRESHMAN Semester 2			
_____	COMP 102	Reading/Writing in Liberal Arts*	3	_____	HUM 103	Christian Worldview and Culture	3
_____	THE 103	Spirit-Empowered Living	3	_____	COM 101	Oral Communication	3
_____	MAT 201	Calculus I**	4	_____	MAT 202	Calculus II	4
_____	CHE 111	General Chemistry I	3	_____	PHY 111	Physics I**	3
_____	CHE 111L	General Chemistry I Lab	1	_____	PHY 111L	Physics I Lab**	1
_____	EGR 100	Engineering/Physics Seminar	0	_____	EGR 100	Engineering/Physics Seminar	0
_____	EGR 101	Introduction to Engineering	2	_____	EGR 140	Engineering Graphics	2
_____	GEN 099	Whole Person Assessment	0	_____	HPE 002	Health Fitness II	1
_____	PRF 070	Swimming Proficiency	0				17
_____	HPE 001	Health Fitness I	1				
			17				
SOPHOMORE Semester 3				SOPHOMORE Semester 4			
_____	BLIT 110	Survey of Old Testament Literature	3	_____	BLIT 120	Survey of New Testament Literature	3
_____	MAT 321	Calculus of Functions of Several Variables	4	_____	MAT 211	Differential Equations	3
_____	PHY 112	Physics II	3	_____	EGR 100	Engineering/Physics Seminar	0
_____	PHY 112L	Physics II Lab	1	_____	EGR 210	Network Analysis I	3
_____	EGR 100	Engineering/Physics Seminar	0	_____	EGR 210L	Network Analysis I Lab	1
_____	EGR 221	Mechanics I: Statics	3	_____	EGR 222	Mechanics II: Dynamics	3
_____	EGR 252	Engineering Computational Methods	3	_____	EGR 231	Heat and Thermodynamics	3
_____	HPE _____	HPE Activity^	0.5	_____	HPE _____	HPE Activity^	0.5
			17.5				16.5
				SUMMER			
				_____	HUM _____	Humanities Options	3
JUNIOR Semester 5				JUNIOR Semester 6			
_____	_____	Social Sciences Elective	3	_____	COMP 303	Critical Reading and Writing	3
_____	HUM _____	Humanities Options+++	3	_____	HUM _____	Humanities Options+++	3
_____	ME 321	Mechanics of Materials	3	_____	MAT 312	Linear and Matrix Algebra	3
_____	ME 331	Applied Thermodynamics	3	_____	ME 381	Principles of Design	3
_____	EGR 100	Engineering/Physics Seminar	0	_____	ME 433	Heat Transfer	3
_____	MAT 325	Probability and Statistics	3	_____	ME 444	Experimental Methods	3
_____	HPE _____	HPE Activity^	0.5	_____	EGR 100	Engineering/Physics Seminar	0
			15.5	_____	HPE _____	HPE Activity^	0.5
							18.5
SENIOR Semester 7				SENIOR Semester 8			
_____	HIS 101	American History	3	_____	GOV 101	American Government	3
_____	EGR 330	Control Systems	3	_____	_____	Technical Elective++	3
_____	ME 447	Finite Element Method	3	_____	ME 441	Fluid Mechanics	3
_____	ME 461	Manufacturing Processes	3	_____	EGR 100	Engineering/Physics Seminar	0
_____	EGR 100	Engineering/Physics Seminar	0	_____	_____	Technical Elective++	3
_____	EGR 461	Engineering Management and Economy	2	_____	EGR 499	Senior Design and Research II	2
_____	EGR 498	Senior Design & Research I	2	_____	HPE _____	HPE Activity^	0.5
_____	HPE _____	HPE Activity^	0.5				14.5
			16.5				

- * If the student is required to enroll in COMP 101, then 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 1 should take Calculus I in the spring and Physics I in the summer.
- + PSY 201 Principles of Psychology, MUS 208 Music in World Cultures, SWK 202 Introduction to Social Work, SOC 101 Introduction in Sociology, SOC 201 Marriage and Family, SOC 323 Child and Family in the Social Context, BUS 201 Principles of Economics I, or FIN 244 Personal Financial Planning (recommended)
- ++ EGR 321 Design of Control Systems, ME 371 Theory of Machines and Mechanisms, or ME 450 Special Topics
- +++ See list of Humanities (HUM) options on the back.
- ^ HPE courses are 1 credit hour each, but students can petition to take them for .5 credits. Course work remains the same.

BS in Engineering - Mechanical Engineering Concentration (EGR/MEC)

			Credit Hours
General Education			
Whole Person Assessment (GEN 099)			0
English (COMP 102, 303)			6
Oral Communication (COM 101)			3
Humanities (HUM 103 plus three of the following: HUM 222*, 233*, 244*, 250, 255, 260, 270, 333*, 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 (PHY 111 lecture and lab)			4
Mathematics (MAT 201)			4
American History (HIS 101)			3
American Government (GOV 101)			3
Social Sciences Elective (Choice of one of the following: PSY 201, MUS 208, SWK 202, SOC 101, SOC 201, SOC 323, BUS 201 or FIN 244-recommended.)			3
Health, Physical Education, and Recreation (one course per full-time semester at ORU, including HPE 001 and 002, swimming course or proficiency, and electives.)			5
General Education Total			56
Major			
EGR	100	Engineering/Physics Seminar	0
EGR	101	Introduction to Engineering	2
EGR	140	Engineering Graphics	2
EGR	210	Network Analysis I (lecture and 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 and lab)	4
EGR	252	Engineering Computational Methods	3
Major Total			27
Mechanical Engineering Concentration			
EGR	222	Mechanics II: Dynamics	3
EGR	330	Control Systems	3
ME	321	Mechanics of Materials	3
ME	331	Applied Thermodynamics	3
ME	381	Principles of Design	3
ME	433	Heat Transfer	3
ME	441	Fluid Mechanics	3
ME	444	Experimental Methods	3
ME	447	Finite Element Method	3
ME	461	Manufacturing Processes	3
Choice of two of the following technical elective courses:			6
EGR	331	Design of Control Systems	
ME	371	Machines and Mechanisms	
ME	450	Special Topics	
Mechanical Engineering Concentration Total			36
Cognate			
MAT	202	Calculus II	4
MAT	211	Differential Equations	3
MAT	312	Linear and Matrix Algebra	3
MAT	321	Calculus of Functions of Several variables	4
MAT	325	Probability and Statistics	3
Cognate Total			17
Degree Total			136

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