

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

DEGREE PLAN SHEET **2018-2019**
Engineering Department

TOTAL HOURS REQUIRED 129
 Hours in Major 27
 Hours in Concentration 36
 Hours in Cognate 18
 Hours in General Education 48

Name _____ Date _____
 Z# _____ Email _____
 Telephone _____
 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	Composition II*	3	_____	THE 105	Spirit-Empowered Living II	2
_____	THE 104	Spirit-Empowered Living I	2	_____	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 150	Intro to Whole Person Education	1	_____	HPE 155	Health Fitness	1
_____	PRFH 070	Swimming Proficiency	0				16
			16				
SOPHOMORE Semester 3				SOPHOMORE Semester 4			
_____	BLIT 111	Bible I: Old Testament	2	_____	BLIT 122	Bible II: New Testament	2
_____	MAT 321	Calculus III	4	_____	MAT 211	Differential Equations	3
_____	PHY 112	Physics II	3	_____	EGR 100	Engineering/Physics Seminar	0
_____	PHY 112L	Physics II Lab	1	_____	EGR 225	Circuits and Electronics	3
_____	EGR 100	Engineering/Physics Seminar	0	_____	EGR 225L	Circuits and Electronics 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
			16.5				15.5
JUNIOR Semester 5				JUNIOR Semester 6			
_____	_____	Social Sciences Elective+	3	_____	HUM _____	Humanities Options+++	3
_____	HUM _____	Humanities Options+++	3	_____	MAT 312	Linear and Matrix Algebra	3
_____	ME 321	Mechanics of Materials	3	_____	ME 381	Principles of Design	3
_____	ME 331	Applied Thermodynamics	3	_____	ME 441	Fluid Mechanics	3
_____	EGR 100	Engineering/Physics Seminar	0	_____	ME 444	Experimental Methods	3
_____	MAT 325	Probability and Statistics	3	_____	EGR 100	Engineering/Physics Seminar	0
_____	HPE _____	HPE Activity^	0.5	_____	COMP 303	Critical Reading and Writing	3
			15.5	_____	HPE _____	HPE Activity^	0.5
							18.5
SENIOR Semester 7				SENIOR Semester 8			
_____	GOV/HIS _____	Civics Elective ***	3	_____	_____ 101	Foreign Language	3
_____	EGR 330	Control Systems	3	_____	_____	Technical Elective**	3
_____	ME 447	Finite Element Method	3	_____	ME 433	Heat Transfer	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	_____	PRFR 001	FE Exam Proficiency	0
_____	HPE 400	Lifelong Wellness^	0.5	_____	HPE _____	HPE Activity^	0.5
			16.5				14.5

* 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 Trigonometry 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.

*** See list of Civics options on the back.

General Education**Credit Hours**

Introduction to Whole Person Education (GEN 150) Counts as HPE Activity	1
Composition (COMP 102, 303)	6
Oral Communication (COM 101)	3
Humanities (HUM 201*, 202*, 203*, 204*; 333, ART 103, 104, 307; DANP 125; DRAM 215, 304; MUS 300)	6

* At least one course must be chosen from courses marked with asterisks.

Civics (GOV 101, GOV 103, HIS 110, HIS 111, or HIS 200)	3
Foreign Language (101, 102, 203 or 204)	3
Biblical Literacy (BLIT 111, 122)	4
Theology (THE 104, 105)	4
Chemistry (CHE 111 lecture and lab)	4
Physics (PHY 111 lecture and lab)	4
Mathematics (MAT 325)	3
Social Science 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 Science (one course per full-time semester at ORU, including HPE 155 and 400, swimming course or proficiency, and electives.)	4

General Education Total**48****Major**

EGR 100	Engineering/Physics Seminar	0
EGR 101	Introduction to Engineering	2
EGR 140	Engineering Graphics	2
EGR 225	Circuits and Electronics (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
PRFR 001	FE Exam Proficiency	0
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 201	Calculus I	4
MAT 202	Calculus II	4
MAT 211	Differential Equations	3
MAT 312	Linear and Matrix Algebra	3
MAT 321	Calculus III	4

Cognate Total**18****Degree Total****129**

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