ORAL ROBERTS UNIVERSITY | DEGREE PLAN SHEET **2021-2022** | TOTAL HOURS REQUIRED 129

DEGREE: **Bachelor of Science in Engineering** | **School of Engineering** | Hours in Major 27

MAJOR: **Engineering** | Hours in Concentration 36

CONCENTRATION: **Mechanical Engineering (EGR/MEC)** | Hours in Cognate 18

Name _____ | Hours in General Education 48

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	Composition II*	3	____	THE	105	Spirit-Empowered Leadership	2
_____	THE	104	Spirit-Empowered Living	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		Every student must take a "GO" course			
			SOPHOMORE Semester 3					**SOPHOMORE Semester 4**	
_____	BLIT	111	Christian Life I	2	_____	BLIT	122	Christian Life II	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**	
_____	____	____	Foreign Language ~	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	_____	_____	_____	Social Sciences Elective+	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 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.

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

~ Foreign Language 101 or 102 will require an additional credit hour.

2021-2022

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

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*,333,342; ART: 103,104,307; DANP 125; DRAM: 215, 304; MUS 130) * At least one course must be chosen from courses marked with asterisks.			6
Civics (GOV 101, GOV 103, HIS 110, HIS 111, or HIS 200)			3
Foreign Language (101, 102, 203 or 204) * fulfills "GO" course requirement			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 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 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.