TAYLOR UNIVERSITY

BS in Engineering - 2019-2020

Student Name: _____

Student ID: _____

Engineering Core Requirements

_____	COS 130	3	Computational Problem Solving for Engineers
_____	ENP 104	3	Introduction to Engineering & Software Tools
_____	ENP 231	4	Introduction to Electric Circuits
_____	ENP 252	4	Principles of Engineering
_____	ENP 301	3	Statics
_____	ENP 332	4	Control Systems
_____	ENP 351	3	Thermodynamics
_____	ENP 352	3	Materials Science and Solid State Physics
_____	ENP 392	3	Junior Engineering Project
_____	ENP 393	2	Practicum
_____	ENP 405	1	Engineering Ethics
_____	ENP 491	1	Review of the Fundamentals of Engineering
_____	ENP 492	2	Engineering Senior Capstone I
_____	ENP 493	3	Engineering Senior Capstone II
_____	ENP 494	1	Engineering Senior Capstone III

Science and Math Core Requirements

_____	CHE 211	4	College Chemistry I
_____	MAT 151	4	Calculus I
_____	MAT 230	4	Calculus II
_____	MAT 240	4	Calculus III
_____	MAT 251	4	Differential Equations
_____	PHY 211	5	University Physics I
_____	PHY 212	5	University Physics II

Select <u>one</u> course from the following:

_____	PHY 341	3	Math Methods in Physics and Engineering
_____	SUS 231	4	Environmental Science, Society, and Sustainability

Select <u>one</u> course from the following:

_____	IAS 231H	2	Issues in Science and Religion
_____	NAS 480	1	Seminar

Additional Core Requirements

_____	ECO 201	3	Principles of Microeconomics
_____	SYS 330	3	Human Relations in Organizations

Select <u>one or two</u>* 24-hour concentration area: Biomedical, Chemical, Electrical, Environmental, General, Mechanical, Physics

<u>Biomedical</u>

_____	BIO 201	4	Biology I: Foundations of Cell Biology and Genetics
_____	CHE 212	4	College Chemistry II
_____	CHE 311	4	Organic Chemistry I
_____	ENP 303	3	Dynamics

Select <u>5</u> additional hours from Tier A: Engineering Electives

Select <u>4</u> additional hours from Tier B: Mathematics, Science, & Engineering Electives

<u>Chemical</u>

_____	CHE 212	4	College Chemistry II
_____	CHE 311	4	Organic Chemistry I
_____	CHE 431	4	Physical Chemistry I – Thermodynamics
_____	ENP 357	3	Heat Transfer

Select <u>5</u> additional hours from Tier A: Engineering Electives

Select <u>4</u> additional hours from Tier B: Mathematics, Science, & Engineering Electives

<u>Electrical</u>

_____	ENP 261	3	Digital Systems Design
_____	ENP 321	2	Applied Electromagnetics
_____	ENP 341	4	Microcomputer Interfacing
_____	ENP 431	4	Advanced Electronics and Microcircuits
_____	PHY 311	4	Modern Physics
_____	PHY 321	3	Electricity and Magnetism

Select <u>4</u> additional hours from Tier B: Mathematics, Science, & Engineering Electives

<u>Environmental</u>

_____	CHE 212	4	College Chemistry II
_____	ENP 355	3	Fluid Mechanics and Water Flow
_____	ENS 241	4	Physical Geology
_____	ENS 361	4	Geomorphology
_____	ENS 362	4	Hydrogeology

Select <u>5</u> additional hours from Tier A: Engineering Electives

<u>General</u>

Select <u>15</u> additional hours from Tier A: Engineering Electives

Select <u>9</u> additional hours from Tier B: Mathematics, Science, & Engineering Electives

<u>Mechanical</u>

_____	ENP 302	3	Strength of Materials and Machine Design
_____	ENP 303	3	Dynamics
_____	ENP 355	3	Fluid Mechanics and Water Flow
_____	ENP 357	3	Heat Transfer
_____	ENP 359	2	Mechanical Engineering Laboratory

Select <u>10</u> additional hours from Tier B: Mathematics, Science, & Engineering Electives

<u>Physics</u>

_____	PHY 311	4	Modern Physics
_____	PHY 321	3	Electricity and Magnetism
_____	PHY 322	4	Waves and Physical Optics
_____	PHY 412	3	Quantum Mechanics I

Select <u>8</u> additional hours from Tier A: Engineering Electives

Select <u>2</u> additional hours from Tier B: Mathematics, Science, & Engineering Electives

Tier A: Engineering Electives

_____	COS 121	4	Foundations of Computer Science
_____	ENP 261	3	Digital Systems Design
_____	ENP 302	3	Strength of Materials and Machine Design
_____	ENP 303	3	Dynamics
_____	ENP 321	2	Applied Electromagnetics
_____	ENP 341	4	Microcomputer Interfacing
_____	ENP 355	3	Fluid Mechanics and Water Flow
_____	ENP 357	3	Heat Transfer
_____	ENP 359	2	Mechanical Engineering Laboratory
_____	ENP 394	1-4	Advanced Engineering Project
_____	ENP 431	4	Advanced Electronics and Microcircuits

**Majors may elect any double concentration, provided (1) they meet the requirements of both concentrations, (2) neither of the concentrations is General engineering, and (3) the total number of concentration credits (non-core) is at least 32. These restrictions mean that any double concentration will require at least 8 Tier B credit hours beyond the 24 credit hours required for a single concentration.*

Tier B: Mathematics, Science, and Engineering Electives

_____	BIO 201	4	Biology I: Foundations of Cell Biology and Genetics
_____	BIO 203	4	Principles of Genetics
_____	BIO 310	4	Human Anatomy & Physiology I
_____	BIO 311	4	Human Anatomy & Physiology II
_____	CHE 212	4	College Chemistry II
_____	COS 121	4	Foundations of Computer Science
_____	COS 230	3	Missions Technology
_____	ENS 241	4	Physical Geology
_____	MAT 245	4	Linear Algebra
_____	BIO ____	1-10	*Any 300/400 electives not used in major*
_____	CHE ____	1-10	*Any 300/400 electives not used in major*
_____	COS ____	1-10	*Any 300/400 electives not used in major*
_____	ENP ____	1-10	*Any 300/400 electives not used in major*
_____	ENS ____	1-10	*Any 300/400 electives not used in major*
_____	MAT ____	1-10	*Any 300/400 electives not used in major*
_____	PHY ____	1-10	*Any 300/400 electives not used in major*
_____	SYS ____	1-10	*Any 300/400 electives not used in major*

Total Major Hours Required: 104-106

_____ *Participation in a weekend retreat for all students in the department.*

(continued on next page)

Degree Requirements

- 128 minimum hours and 42 minimum upper-division hours (3XX/4XX course numbers).
- Fifty percent of the minimum hours must be completed at Taylor—64 hours.
- Fifty percent of the major/minor hours must be completed at Taylor.
- 22 of the last 30 hours earned must be completed at Taylor.
- Cumulative GPA of 2.0; major GPA of 2.3 (higher GPA may be required in certain curricula). (See current catalog for policy).
- All general education, major, minor, and proficiency requirements must be completed (including Senior Comprehensive Exam/Paper/Project).
- Two years of one foreign language is required for the BA degree.
- Candidates for 2 degrees must complete a minimum of 158 semester hours and meet all requirements for 2 different majors.