

## 2022-2023

### Degree Map: [Applied Physics – Dual Degree Engineering \(BS\)](#)

#### Physics Program

School of Natural Sciences & Mathematics | Stockton University

USC 1 – 240 | 609-652-4546

The following is a **suggested** plan of study for completion of this degree program.

The **goal of a Degree Map** is to ensure that students graduate with no more than 128 credits and in four years.

- All students should speak with their preceptor about their academic programs.
- Students are encouraged to take overload and Summer courses to facilitate their progress towards graduation as necessary.
- Transfer students may not need to take all courses in the plan; they should consult with an academic advisor.
- Additional courses may be required based on selected engineering major and school.

FIRST YEAR - FALL	Credit	FIRST YEAR - SPRING	Credit
Course load	19	Course load	19
FRST 2120 Rhetoric and Comp <b>Attribute:</b> W1	4	GAH or GSS course** <b>Attribute:</b> H, I, R, or V and W1 or W2	4
<b>Subject:</b> GAH or GSS** <b>Attribute:</b> Freshman Seminar	4	CSCI 2101 Programming and Problem Solving <b>Attribute:</b> Q2	4
PHYS 2220/05 Physics I w/lab <b>Attribute:</b> Q1	6	PHYS 2230/35 Physics II w/lab <b>Attribute:</b> Q1	6
MATH 2215 Calculus I <b>Attribute:</b> Q1	5	MATH 2216 Calc II <b>Attribute:</b> Q1	5

SECOND YEAR - FALL	Credit	SECOND YEAR - SPRING	Credit
Course load	16	Course load	19
GAH or GSS course** <b>Attribute:</b> H, I, R, or V and W1 or W2	4	GAH or GSS course** <b>Attribute:</b> H, I, R, or V and W1 or W2	4
GEN 2180 Engineering Graphics and CAD <b>Attribute:</b> A	4	CHEM 2110/05 Chem I: General Principles w/Lab <b>Attribute:</b> Q2	5
PHYS 3010 Physics III <b>Attribute:</b> Q2/W2	4	PHYS 3110 Electronics <b>OR</b> PHYS 3340 Optics <b>Attribute:</b> Q2	4
MATH 2217 Calculus III <b>Attribute:</b> Q1	4	PHYS 3345 Math Methods (Rutgers or Rowan) <b>Attribute:</b> Q1 <b>OR</b> MATH 3328 Differential Equations (NJIT) <b>Attribute:</b> Q1	4
		PHYS 2410 Problem Solving Using MATLAB <b>Attribute:</b> Q2/W2	2

THIRD YEAR - FALL	Credit	THIRD YEAR - SPRING	Credit
Course load	16	Course load	16
ECON 1400 Introduction into Microeconomics <b>Attribute:</b> Q2	4	GIS course <b>Attribute:</b> (H, I, R, or V) and (W1 or W2)	4
PHYS 2300 Statics	4	MGMT 2110 Introduction into Management	4
Additional Program/cognate course based on selected engineering degree/school	4	PHYS 3220 Classical Mechanics	4
PHYS 3xxx Physics Elective (Check with program coordinator before selecting the elective)	4	PHYS 3200 Mechanics of Materials (BME, ME, or CE) <b>OR</b> PHYS 3120 Electrical Circuits (EE. And COE)	4

**This document is not a substitute for academic advisement.**

Approved by The Engineering Program (February 2022)

THIRD YEAR - FALL	Credit	THIRD YEAR - SPRING	Credit
PHYS 2600 Physics Colloquium	0	PHYS 2600 Physics Colloquium	0
		ENGN 4600 Engineering Seminar	0

FOURTH YEAR - FALL	Credit	FOURTH YEAR - SPRING	Credit
Course load	12+	Course load	12+
ENGN 4600 Engineering Seminar	0	ENGN 4600 Engineering Seminar	0
Engineering courses at NJIT, Rowan University or Rutgers's University	var	Engineering courses at NJIT, Rowan University or Rutgers's University	var

**GRADUATION REQUIREMENT TRACKER**

G-course	✓
GAH	
GAH	
FRST 2120	
GIS	
GSS	
GSS	

Quantitative Reasoning	✓
Q1 (First year)	
Q1/Q2	
Q2	

At-some-distance	✓
ASD	
ASD	
ASD	
ASD	

Attributes	✓
A	
H	
I	
R1	
R2	
V	

Writing Requirement	✓
W1 (First year)	
W1/W2	
W1/W2	
W1/W2 (3000 level or higher)	

**Program specific notes**

- To declare the Dual Degree Engineering track, you will need to be in one of the following majors: Applied, Physics, Mathematics, or Chemistry. Tracks must be declared early during your first semester freshman year.
- A grade of "C" or higher must be earned in all courses. Students must have an overall **3.0 GPA** with at least a **3.0 GPA** in NAMS courses.
- **AE** Aerospace Engineering; **BME**: Biomedical Engineering; **EnvE**: Environmental Engineering; **EE**: Electrical Engineering; **CoE**: Computer Engineering; **ME**: Mechanical Engineering; **CE**: Civil Engineering
- \*\* Students must complete two GSS and GAH courses.
- Additionally, General Studies (e.g. G-course distribution, W, Q, R and AHVI) and ASD course requirements need to be fulfilled. W, Q, R and AHVI attributes can be fulfilled via G-course requirements, program/cognate requirements or taken as ASD credits. In addition, check the Stockton's Degree Requirements section in this *Bulletin*.

**ADDITIONAL INFORMATION**

- **FIRST (FRST)**. All newly admitted freshmen or transfer students with 15 or fewer credits are required to fulfill the University's first-year competency requirement. The requirement may be met by demonstrating competency on the placement tests, or by passing, with a grade of C or better, all FRST courses: FRST 1101 – College Writing, 1002 – Critical Thinking and Reading, and 1103 – Quantitative Reasoning into which students have been placed. Students enrolled in FRST 1100 – Developmental Mathematics must receive a grade of C or better, and then enroll in and receive a grade of C or better in FRST 1103 to demonstrate competency. Full-time students must register for all required FRST courses in their first semester. Depending on time to completion of competency requirements, some students may need additional time for degree completion. *Note*- certain FRST courses also meet the requirements

## This document is not a substitute for academic advisement.

Approved by The Engineering Program (February 2022)

of the General Studies course distribution categories.

- **General Studies.** B.S. students must complete 40 credits of General Studies with the distribution requirement of: 8 GAH, 4 GEN, 4 GIS, 8 GSS and 16 ASD (At Some Distance). See 2022-2023 Bulletin for more information.
- **W1/W2- Writing requirement.** Students are required to complete (C or better) four Writing intensive (WI/W2) courses. One W1 is required in the first year and an additional three W1 or W2 with one in the upper-level division (3000-level or higher). W1/W2 courses can be found in General Studies or Program/cognate courses depending on major.
- **Q1/Q2- Quantitative Reasoning.** Students are required to complete (D- or better) three Q1/Q2 courses. One Q1 in the first year and at least one Q2. Q1/Q2 courses may be found in General Studies or Program/cognate course depending on major.
- **R1/R2- Race and Racism.** Students are required to pass one (1) R1 and another R1/R2 course. R1 (C or better), R2 (D or better). R1/R2 courses may be found in General Studies or Program/cognate courses depending on major.
- **Minor program.** Students may select a Minor program of study, in consultation with their preceptor. Minor courses would replace some of the ASD or Program/cognate courses in the Degree Map.
- **Attributes (AHVI/Q, W and R).** A course may fulfill multiple attributes and/or other requirements. Therefore, many attributes can be fulfilled without taking additional courses. Attributes can be taken in any order except for the first-year requirements. Many course choices are available to fulfill an attribute.