

# **ENGINEERING, SCIENCES AND MATHEMATICS**

## **PATHWAY DIPLOMA**

Graduation Requirements for a Diploma with an Emphasis in Engineering, Sciences and Mathematics Careers (If an AP Course is not offered at the time the student needs, the student may apply to take the equivalent class at a college under Concurrent Enrollment.)

### **English**

#### **4.0 Credits**

Freshman English (1.0)  
Sophomore English or AP English Language (1.0)  
Junior English or AP English Language or AP English Literature (1.0)  
Senior English or AP English Literature (1.0), Senior Composition (1.0)

### **Mathematics**

#### **4.0 Credits**

Geometry or Geometry Honors (1.0)  
Algebra II or Algebra II Honors (1.0)  
Precalculus or Precalculus Honors (1.0)  
AP Calculus (1.0)

### **Science**

#### **5.0 Credits**

##### **EMPHASIS IN MATH AND SCIENCE**

Conceptual Physics (.33)  
Biology Concepts (.33)  
Earth Systems (.33)  
Introduction to  
Engineering (1.0)  
AP Chemistry (2.0) or AP Physics (1.0)  
Additional 2.0 credits in science coursework as decided upon by  
parent, advisor, and student.

##### **EMPHASIS IN ENGINEERING**

Conceptual Physics (.33)  
Biology Concepts (.33)  
Earth Systems (.33)  
Introduction to  
Engineering (1.0)  
Physics (1.0)  
AP Chemistry (2.0) or AP  
Physics (1.0) (AP Physics  
strongly recommended.)  
Additional 1.0 credit in science coursework as decided upon by  
parent advisor and student.

### **Social Studies**

#### **3.33 Credits**

Geography (.66) or AP Human Geography (1.0)  
American Government (.33)  
American History or AP American History (1.0)  
World History or AP World History (1.0)  
Economics (.33) or AP Economics (1.0) or High School of Business  
1 – Principles of Business and Business Economics Honors (.66)

### **Fine Arts**

#### **1.0 Credit**

Introduction to Art (.33)  
Additional .66 credit as decided upon by parent, advisor and student.

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### Career and Technical Education

#### 1.00 Credit

Computer Applications (.33)  
Career Exploration (.33)

Additional .33 credit as decided upon by parent, advisor and student.

### World Language

#### 2.0 Credits of the same language

Students may enroll in a language of their choice.  
Students who plan to attend a four-year college should plan to take three years of the same language.

### Wellness

#### 1.0 Credit

Introduction to Health and Wellness (.33)  
.33 additional credit in a P.E. class (The course catalog indicates if a class fulfills this requirement)  
.33 additional credit in Wellness classes as decided upon by parent, advisor, and student.

### Interdisciplinary

#### .66 Credit

### Advising

#### 2.4 Credit

**Total Credits** – The student must earn at least 29 credits for this pathway diploma.

**Job Shadows** – All students must complete 3 one-half day shadowing experiences. One experience must be in an *Engineering, Science, or Mathematics-related* field.

**Community Service** – 50 hours must be logged to receive .33 credit

**Internship** – 50 hours in an Engineering, Science, or Mathematics-related field must be logged to receive .33 credit

**Pathway Exploration** – Additional 50 hours in an Engineering-, Science-, or Mathematics-related field must be logged to receive .33 credit. This may be completed through additional shadowing, community service, or internship.

**Portfolio** – The ICAP portfolio is required for this pathway diploma

**Senior Project** – A senior project is required for this pathway diploma

## **Sample Careers for Engineering, Sciences, and Mathematics Pathway**

- Aerospace Engineer
- Architect
- Atmospheric Science
- Bio Tech Engineering
- Chemist
- Civil Engineer
- Computer Engineer
- Electrical Engineer
- Mechanical Engineer
- Structural Engineer
- Systems Analyst
- Teacher of Science or Math

**ENGINEERING, SCIENCES AND MATHEMATICS**  
**PATHWAY DIPLOMA**

**Request for Pathway Diploma**

Name: \_\_\_\_\_

Advisor: \_\_\_\_\_

This is to certify that the above-named student is committed to completing the graduation requirements for the Engineering, Sciences and Mathematics Pathway and is requesting the corresponding pathway diploma.

Student Signature \_\_\_\_\_

Date \_\_\_\_\_

Advisor Signature \_\_\_\_\_

Date \_\_\_\_\_

Turned into Student Services on \_\_\_\_\_ (must be during first trimester of senior year).

Received by \_\_\_\_\_

Revised 12/11/2020