

# Martin Luther School

Small School.  Smart Choice.

## STEM CERTIFICATE REQUIREMENTS

### MATH REQUIREMENTS

- 4 years of Math with an 80 or higher in each course.
- Pass 3 Math Regents Exams in:
  - Algebra 1
  - Geometry
  - Algebra 2

### SCIENCE REQUIREMENTS

- 4 years of Science with an 80 or higher in each course.
- Pass 2 Science Regents Exams in:
  - Living Environment
  - Earth Science
  - Physics
  - Chemistry

### TECHNOLOGY REQUIREMENTS

- Complete the Technology course with a grade of 80 or higher.
- Complete two of the following:
  - Photography Course
  - Robotics Course
  - A Web-Page demonstrating basic HTML/CSS proficiency
  - Support technology for school functions or a school organization for 1 year
  - Support Theatre Tech for 1 major production
  - Other (must be pre-approved)

### ENGINEERING REQUIREMENTS

1. Investigate 2 different fields of engineering through site visit, office visit, etc. with actual engineers in those fields
  - a. Compare and contrast in writing how engineers in different fields carry out engineering processes
- Define the word *engineering* and describe the general design process engineers use in terms of a product used in everyday life.
2. Complete 1 pre-approved engineering project – either small individual projects and/or larger team projects.

### ADVANCED COURSEWORK

- Take an earn a grade of 80 in two of the following:
  - Elements of Chemistry
  - Earth History
  - Heredity and Society
  - Conservation and Pollution Biology
  - AP Calculus
  - Intro to Probability & Statistics
  - Any Science, Math, or Technology course with an AP Exam and a 3 or higher on that Exam.
  - Take one SAT-II in either Math or Science (either Level 1 or 2)

### MAJOR EVENTS

1. Visit a STEM related fair/exhibit/conference. Report information to advisor.
2. Work with a professional in a STEM field of interest as part of the Alumni Mentoring Program
3. Complete a major (pre-approved) STEM project OR internship in any STEM area:
  - Science
  - Technology (including software)
  - Engineering
  - Math

### LEADERSHIP

- Demonstrate leadership in a STEM-related area; must be pre-approved. Examples include, but are not limited to the following:
  - Lead a STEM-related club
  - Design the technology for theatre event
  - Recruit other students
  - Mentor other students in STEM areas
  - Plan and lead a trip to a museum or other site of STEM-related interest

*Note: Activities marked as needing pre-approval must be cleared by students through the STEM Coordinator (who may consult other faculty).*