

Year 1

Introduction to Engineering Design Skills

- 3D modeling software
- Research and analysis,
- Engineering standards,
- Technical documentation
- Engineering Drawing
- Design process,
- Teamwork
- Solid Modeling
- Hands-on projects

Year 2

Principles of Engineering Skills

- Strength of structures
- Project Management
- Technical Communications
- Process documentation
- Hands-on projects
- Materials analysis
- Engineering Ethics
- Problem solving,
- Research

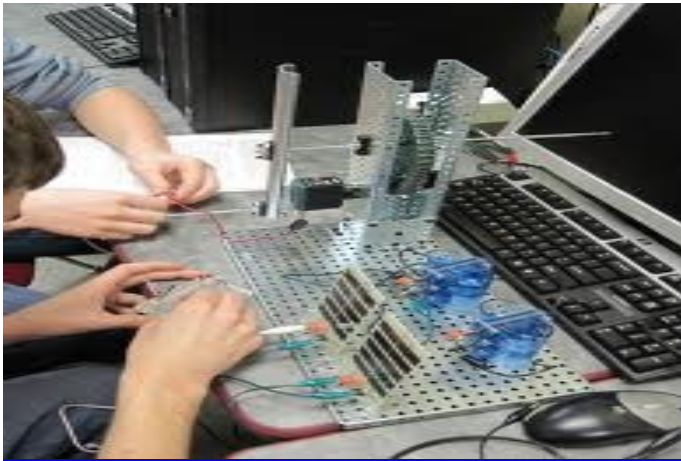
Specialization Courses

Years 3 & 4 (to be determined)

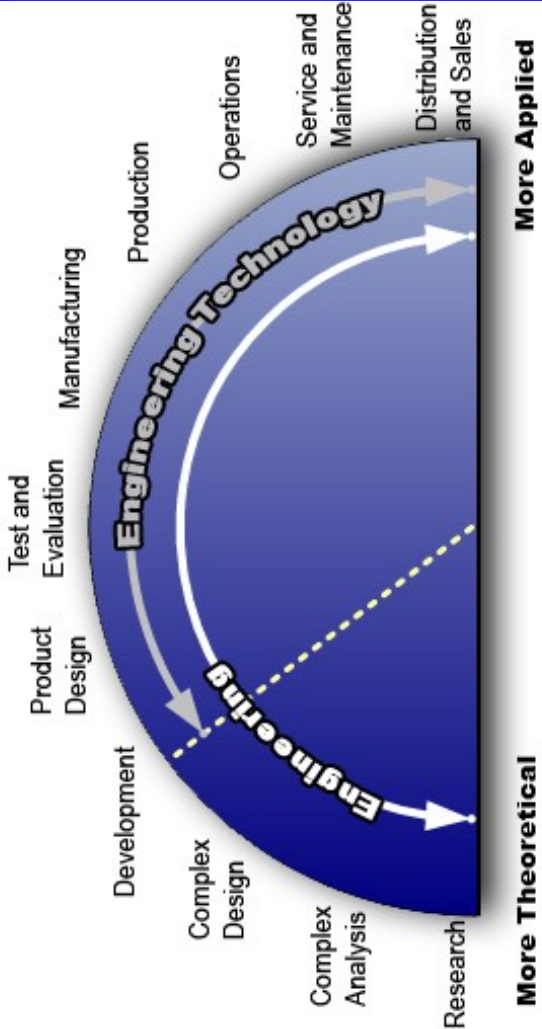
- * **Civil Engineering and Architecture**
* design both residential and commercial projects
- * **Computer Integrated Manufacturing**
* manufacturing processes, product design, robotics, and automation
- * **Computer Science and Software Engineering**
* create apps for mobile devices, automate tasks in a variety of languages, and find patterns in data
- * **Digital Electronics**
* interested in electrical engineering, electronics, or circuit design.

Capstone Course

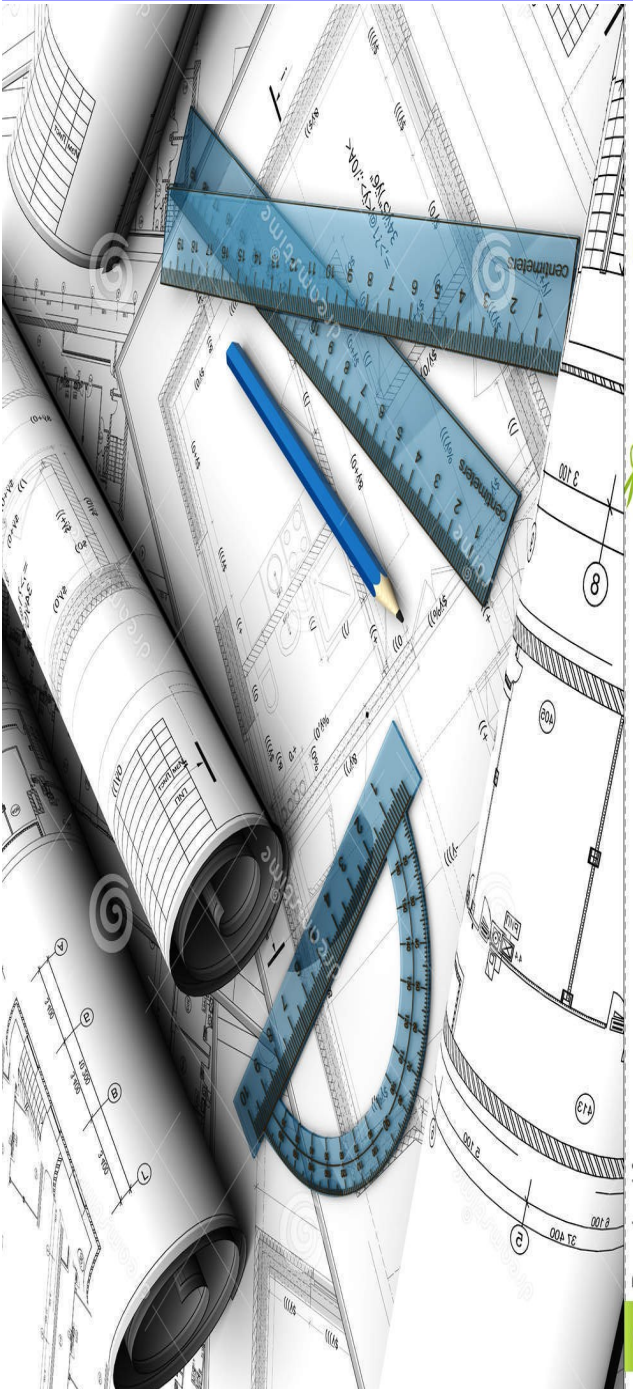
- * **Engineering Design and Development**
* identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers



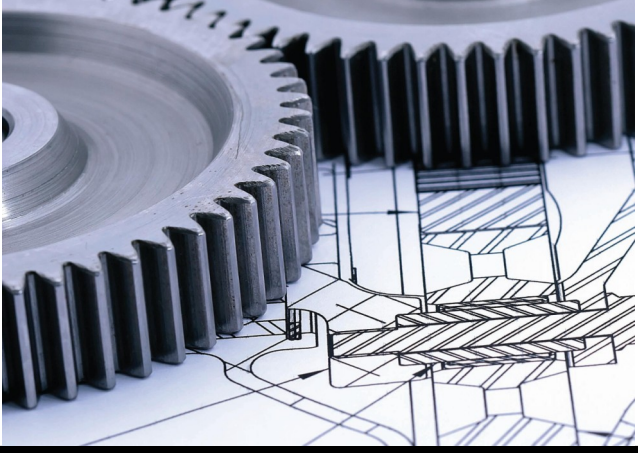
Careers are unlimited !!



The Engineering pathway includes all courses necessary to graduate high school and complete A-G subject requirements for college.



The Engineering Career Spectrum



Grand Terrace High School Engineering Pathway



TITANS... BE GREAT... GRADUATE!



PROJECT LEAD THE WAY

PLTW

Possible sequence courses for a 3 or 4 year Engineering Pathway

| FRESHMAN YEAR: <u>LEARN</u> | SOPHOMORE YEAR: <u>EXPLORE</u> | JUNIOR YEAR: <u>ANALYZE</u> | SENIOR YEAR: <u>DEVELOP</u> |
|--------------------------------|-----------------------------------|---|--------------------------------|
| English 9 (H) | English 10 (H) | English 11 (H/AP) | English 12 (H/AP) |
| Algebra I / Geometry | Geometry /Algebra II | Algebra II / Math Analysis | Trig/ Calculus AB (AP) |
| Biology (H) | World Civilizations (H) | U.S. History (AP) | US Government / Economics |
| Introduction to Design | Principles of Engineering | Digital Electronics, Civil Engineering & Architecture | Capstone Project |
| Physical Education | Chemistry (H) | Physics (H) | AP Chemistry / AP Physics (H) |
| Foreign Language I | Foreign Language II | visual performing arts UC | PE year 2 State/District |

