Overview

The Engineering Pathway takes the students’ Project Lead the Way experiences to a new level. Explore the fundamental concepts related to design drafting, engineering processes, and manufacturing concepts.

Student Experience & Projects

Students will enrich their engineering coursework through participation in activities such as SkillsUSA and Vex robotics competitions, job shadows, Women in Engineering luncheons, internships, career fairs, Maker Space clubs, Academy Enterprise Store, trade shows, and E-week activities.

Possible Careers

Any of multiple professional engineering disciplines.

Field Trips

Teledyne Isco, Olsson Associates, UNL’s Senior Design Showcase, UNL College of Engineering, Kawasaki, Lincoln Industries, Lincoln Chrome, TMCO

Guest Speakers

- Chris Zimmerman (Duncan Aviation)
- Travis Figard (Olsson Associates)
- Jeff Hlavic (LES)
- Chris Millet (Lincoln Industries)
- Dave Koncak (Zoetis)
- Chrissy Waido (Zoetis)
- Jim Townsend (Kawasaki)

Dual Credits: Earn up to 19.5 Southeast Community College credits.
## Recommended Classes to Take

Recommended pre-TCA courses to take at your home high school

**Highly Recommended:** PLTW Intro to Engineering Design (IED 1 & 2)

**Encouraged:** Robotics, Engineering, Mechanisms (REM 1 & 2)

### YEAR 1 CLASSES

#### Junior (or Senior if pathway is not full)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPS Course</td>
<td>ENGR 1010 (4.0) Engineering Design</td>
</tr>
<tr>
<td>PLTW Princ. of Eng.</td>
<td>DDRT 1220 (2.0) 3D Solid Modeling</td>
</tr>
<tr>
<td>DDRT 1120 (2.0) Basic Computer Aided Drafting</td>
<td>Includes some POE projects</td>
</tr>
</tbody>
</table>

Project Lead the Way (PLTW) Principles of Engineering (POE)

### YEAR 2 CLASSES

#### Returning TCA Senior

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 1150 (4.0) Descriptive Physics w/Lab</td>
<td>ENGR 1020 (3.0) MatLab</td>
</tr>
<tr>
<td>DDRT 1400 (2.0) Virtual Building Design Revit</td>
<td>DDRT 1330 (2.0) Solidworks</td>
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</tbody>
</table>

### Additional high school courses taken at TCA to meet graduation requirements

(Students earn 30 LPS credits per year toward the 245 LPS credits required for graduation).

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>11th LPS Gov't &amp; Politics (5 LPS credits)</td>
<td>11th LPS Economics (5 LPS credits)</td>
</tr>
<tr>
<td>12th LPS English (5 LPS credits)</td>
<td>12th LPS English (5 LPS credits)</td>
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</table>

Senior English Seminar English (10 LPS credits)

Course completed over two semesters earning 5 credits each semester

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### Related Associate of Applied Science Degrees Offered at SCC

- **AAS Degrees:** Design & Drafting Technology, Electronic Systems Technology, Manufacturing Engineering Technology.
- **Certificates/Diplomas:** Design & Drafting Technology, Precision Machining and Automation Technology

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“The TCA Instructors are helpful and do a great job with teaching!”  
– Chance, LSE

“My favorite thing about TCA is working with robotics!”  
– Nolan, East

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