Computer Integrated Manufacturing--PLTW

September/October

- Set up student portfolios
- Computer 3D modeling
  - Teach new features
  - Review Inventor
- Creation of working drawings
  - Project—Desk Set
- Rapid prototyping research project

November/December

- CNC Machining
  - Straight line
  - Curved line
    - Project—Design, draw and manufacture a box
- Precision measurement
- Introduction to EdgeCam
  - Project—Manufacturing cell simulations

January/February

- Robotics
  - Fischertechniks
    - Projects—Design and build an elevator
    - Factory—Groups—build on element of a production system, combine to automated manufacturing system
- History of Robots
  - Career exploration

March/April

- Integrated manufacturing
  - Projects—keychain, build manufacturing cell
- CNC milling
- Automation
  - Loading
  - Stocking
    - Project—Robocell automated system simulations

May/June

- Handshaking with Robot and mill
- Student capstone project
- Prepare for Rochester Institute of Technology final exam

Key Ideas / Concepts

- Understand basic NC and CNC concepts and coordinate systems and write a program using computer language
- Identify types and uses of robotic systems and set up and program an automated system
- Utilize industry technology to design and produce a product