PETERS TOWNSHIP HIGH SCHOOL
COURSE SYLLABUS: AUTOMATED MANUFACTURING

Course Overview and Essential Skills

This course will introduce students to Automated Manufacturing Technology. How are the countless products of society produced? The elements and resources of manufacturing systems will be explained with new technology that is being employed to make our product systems more efficient. Students will see how lasers and robotics can improve manufacturing processes and end products. The use of computers in manufacturing (CAM) and design (CAD), automation, and other new developments will be part of the activities involved with this exciting course.

Course Textbook and Required Materials

- PTSD Web Apps Account

Course Outline of Material Covered:

Unit or Topic	Concepts/Skills/Resources	Timeframe
Automated Manufacturing Today	• how manufacturing systems are an essential part of society • distinguish between wants and needs satisfied by automated manufacturing systems	• 2-Weeks
Automated Manufacturing's Role In Our World	• discuss ways in which manufacturing systems both solve and cause environmental impacts use problem-solving • use methods to develop solutions to manufacturing processes	• 1-Week
The Role of Information Systems In Automated Manufacturing	• illustrate how feedback provides information that can improve the performance of manufacturing • list some of the sources from which information is obtained	• 2-Weeks
The Tools And Machines of Automated Manufacturing Technology	• identify the different tools and machines used in automated manufacturing • identify the difference between manual and autonomous machines	• 3-Weeks
Capitol and its Importance to Automated Systems	• clarify how capital is required to support a manufacturing system • give several of the reasons why companies have to disburse capital in order to obtain profit	• 1-Week
Time and its Relation to Automated Manufacturing Systems	• identify ways in which time and motion studies can improve efficiency • demonstrate how product costs are directly related to time	• 1-Week

Manufacturing Process	• identify the differences between custom, continuous, and intermittent manufacturing • explore CNC, CIM, CADD, and post processors in the automated manufacturing field	• 1-Week
Controlling Quality	• acceptance and process quality control • define zone of acceptance	• 1-Week
Post Manufacturing	• packaging, storing, marketing, and distribution of goods • discuss ways in which automation can aid in post manufacturing activities	• 2-Weeks
Impacts of Manufacturing Systems	• consumer impacts in the environment, society, and economy	• 2-Weeks
Push vs. Pull Manufacturing	• discuss the role pull manufacturing and just-in-time manufacturing	• 1-Week
Statistical Process Control	• demonstrate the differences between push and pull manufacturing • incorporate SPC into an automated manufacturing process	• 1-Week

*****Depending on the needs of the class or changes in the school year, the course outline is subject to change.***