Pre-Engineering

**Mr. Beiter Room C-103**



**Contact Information**

**Mr. Beiter** Email Mbeiter@eriesd.org Phone 814-874-6200 Ext 1557

<http://www.eriesd.org/Page/5717>

**Mrs. McCorkle** Email Mmccorkle@eriesd.org Phone 814-874-6200 Ext 1587

**Mr. Wingerter** Email MWingerter@eriesd.org Phone 814-874-6200

**COURSE OBJECTIVES**

1. Students will develop an understanding of the core concepts of technology and design.
2. Students will use engineering concepts of design and problem solving skills to develop products for manufacturing.
3. Students will be able to write technical documents and build communication with professional personnel.
4. Students will build desired skills in preparation for college and careers post graduation.

# TOPICS

|  |  |
| --- | --- |
| 1st & 2nd Year | 3rd & 4th Year |
| Engineering Safety  | Engineering Safety |
| Computer Aided Drawing | Computer Aided Drawing |
| Fields of Engineering | Engineering Systems |
| Design Process | Materials & Manufacturing Processes |
| Electrical Systems | Electrical Systems |
| Materials & Manufacturing Processes | Industrial Automation & Robotics |
| Hydraulics & Pneumatics | Thermal Systems |

## CAREER READINESS & SAFETY

* OSHA 10 Certification (Occupational Safety & Health Administration)
	+ General Industry safety (MSDS, Slip and Fall, PPE, Blood Borne Pathogens)
	+ <http://www.careersafeonline.com/>
* Tooling U Advanced Manufacturing and Engineering coursework.
	+ <http://www.toolingu.com>
* Fanuc Robotics CERT
* <http://www.Fanuc.com>

## CLASSROOM EXPECTATIONS

Students are expected to:

* Be prepared (textbook, pen/pencil, flash drive, completed assignments, and calculator, 3-ring binder).
* Complete class assignments and homework, maintain a notebook and prepare for assessments.
* Be on time for class and participate in class discussions and projects.
* Complete work missed during an absence.
* Follow school and district policies.
* Attend extra help when class material needs additional explanation.

## MATERIALS

1. Pen/pencil
2. Steel Toed Shoes (for Welding/Machining Rotation)
3. 3-Ring Binder w/ sheet protectors

## ABSENCES

* Students are responsible for all work missed during an absence (this includes notes). Work missed due to an unexcused absence will receive a “0”. (Refer to the discipline policy.)

## GRADING

* Quarter grades will be comprised of tests, class assignments, class notes, homework, clean up, projects, career & safety portfolio, Do Nows/bell ringers, and quizzes.
* Quarter grades will be determined by dividing the number of points earned by the number of points possible.
* The final grade is computed by averaging the percentages earned for each of the four quarters. (Note: An actual earned grade will be reflected on the report card.)

### ERIE SCHOOL DISTRICT GRADING SCALE

 **A 90% - 100%**

 **B 80% - 89%**

 **C 70% - 79%**

 **D 65% - 69%**

 **F 0% - 64%**

**TESTS**

* Tests are announced at least **two** classes in advance.

# CLASS ASSIGNMENTS

* Class assignments are to be completed in class. Any assignment not completed in class will receive a “0”.Absent students must be “excused” to make up the missed work.
* Class assignments should include student’s name, date, and assignment.

# PROJECTS

* All Projects will need to be completed by a desired deadline.
* Projects will be graded depending on the overall completeness and efforts towards the finished product.
* Any project unfinished by the deadline will result in a zero.

**MANUFACTURING**

* Students are responsible to acquire training on the various manufacturing equipment (CNC Router, Laser Engraver, 3D Printer) in the lab.
* Students will participate in engineering design reviews that will encompass the process as which a finished product will be manufactured
* Progress Reports
	+ Students are to write in detail with complete sentences, using proper grammar, about the duties and activities the student performed for the week.
	+ Students will be assessed on the detail of writing about their performance as well as the progress made in the classroom.

.

# EXTRA HELP

* Extra help is available every morning and Wednesday 3:40PM . Additional times can be scheduled if necessary.

Classroom rules

1. **When i am talking you are not.**
2. **Be cooperative and remain and task**
3. **Demonstrate respect for yourself, fellow students, and property.**
4. **You are to stay in seats unless directed otherwise**
5. **All rules delineated in the 2023-2024 discipline handbook are in effect in this room.**

# LAB / SAFETY Rules

1. **No Horseplay, Running or wrestling in the lab**
2. **Must complete Safety test prior to using any piece of equipment**
3. **Use of appropriate ppe ie. Safety glasses are required**
4. **Report any malfunctioning equipment or unsafe conditions to instructor immediately**
5. **All rules delineated in the 2023-2024 discipline handbook are in effect in this lab**