Arrowhead Union High School

School Year: 2010-2011

Department: Technology and Engineering Education

Name of Class: Introduction to Engineering Design - IED, (www.pltw.org)

Room Number: North Campus Room N172 or South Campus Room S805

Instructor: Mr. Tom Whelan
Work Phone: 262-369-3611 Extension 3685
Whelan@ahs.k12.wi.us

Office Hours: 8:58-9:38 B Days (all year)

Grading Policies: Student's term grades will be based on:

15%	Quizzes
15%	Key Terms/Essential Questions
45%	Projects
25%	Daily Work

Technology Education Power Standards:

PS1. Measuring	PS4. Career Education
PS2. Tool Use and Safety	PS5. Skill Development
PS3. Design and Production	PS6. Reading

Grading Scale: ≥

A+	97%	B+	87%	C+	77%	D+	67%
A	94%	B	84%	C	74%	D	64%
A-	90%	B-	80%	C-	70%	D-	60%
						F	>60%

Classroom Expectations/Policies:

- **Homework Expectations:** Students will be expected to complete various assignments including formal drawings and sketches of assigned problems as directed by the teacher. Students should be able to complete assigned class work within the school day. Additional work time will be available when the lab is open. After school-work time may be available with prior teacher arrangement..

- **Materials:** Computers, software and consumable materials are available to each student. Students will be responsible for the purchasing of 2" black 3 Ring Clear See through Binder and approved bounded Engineering Notebook. These items will be available to students for **$5** at the beginning of the semester through the PLTW Instructor. **Note: These items are required for Project Lead the Way Certification.**

- **Student Equipment:** Three ring binder, engineering notebook, and pencil. (these items will kept in class)

- **Absences:** Students with **excused or unexcused absences** are responsible to arrange due dates with instructor upon the day of their return.

- **Late Work:** Assignments handed in late must have prior authorization from the instructor.

- **Tardiness:** Students are expected to be in their seat before the bell rings. 1st offense will be a warning, 2nd offense will be a brief after class discussion, 3rd offense will be after school detention and phone call home, and the 4th offense will be a referral for Saturday detention.

- **Cheating:** Cheating will not be tolerated in class. If a student is caught cheating they will receive a minimum of loss of credit on the assignment, and impact may result in course failure depending on the weight of the assignment/work. (Student Handbook pg. 31)

- **Disciplinary Action:** Disciplinary action will be taken when the student's behavior disrupts the daily function of the class. The following steps will be taken; conference with the student at teacher's discretion, referral and contact parents. All students are expected to follow the rules in the student handbook. Horseplay and dangerous behavior will result in suspension or expulsion from course. Language, which is insulting, demeaning, or offensive, will not be tolerated. (Student Handbook pg. 28, 29)

- **Vandalism:** Students caught vandalizing any computer components, furniture, or classroom equipment, will be charged the full amount to replace/repair the equipment and could be ticketed.

- **Food/Drink:** Only drinks in bottles with caps are allowed in class. No food is allowed in the Technology Areas.

- **Safety:** Students are expected to follow guidelines set by instructor. Failure to comply will result in loss of lab privileges and possible expulsion from course.

Course Description: Introduction to Engineering, offered to all Arrowhead Students for a full year, will introduce students to the world of engineering. Using 3-D computer modeling software, students will learn the design process and have the opportunity to physically develop, analyze, and build product models.

PLTW Certification Students must meet the following requirements to receive PLTW certification:

    Completed Portfolio
    Completed Engineering Notebook
    Minimum of 85% on year long class work
    Minimum of 70% on the National, On-Line Final Exam

Major Assessments/Projects: Unit 1 Puzzle Design
           Unit 2 Solid Modeling
           Unit 3 Reverse Engineering Project
           Unit 4 Virtual Design Project

Course Outline:

  Unit 1: Design Process (10 weeks)

  Unit 2: Design Exercises (10 weeks)

  Unit 3: Reverse Engineering (9 weeks)

  Unit 4: Open-Ended Design Problems (7 weeks)