

Introduction to Engineering Design

2017-2018 Course Syllabus

Captain John L. Chapin

Pre-Engineering Magnet

Instructors

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**Course Purpose & Objectives:**

Introduction to Engineering Design is a course that teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed and communicated using solid modeling computer design software. Particular emphasis is placed within the areas of engineering.

Engineering and science are intimately related. In fact, as our society grows technologically more sophisticated, engineering projects tend to become a mixture of these two fields. This class is designed to expose the students to the exciting fields of engineering and encourage them to consider becoming a professional engineer.

The student will be shown career opportunities, job requirements and overall professional benefits. Heavy emphasis will be placed on developing the necessary skills that engineers need to become successful. These skills include:

* Public Speaking
* Computer Design Application
* Engineering Design Process
* Mathematics
* Group Participation
* Technical Drawing

This instruction will be accomplished through classroom lecture, guided practice and engineering based design challenges.

**Course Assignments**

I. Homework – may include worksheets, design ideas, research, sketching and general preparation for presentations, quizzes or tests. Some grading periods may not have assigned homework because of the nature of instruction.

II. Laboratory or Class Work – constitutes the major portion of the students’ time in this class. Large and complex design projects will be completed on the computer using the 3-D Modeling Software – Inventor. Tutoring may be necessary to complete these projects. It is a students’ responsibility to arrange their schedule to accommodate the Instructor’s posted tutoring schedule, NOT the other way around.

III. Tests and Quizzes – will be given as needed to ensure that the student has mastered the information.

IV. Nine Weeks Exam – will be given at the end of each grading period and will be comprehensive.

V. Semester Exam – will be given at the end of each term and will be comprehensive.

VI. End Of Course Exam (EOC) – will be given at the end of the school year and will be comprehensive. The EOC will be used as one of the criteria to determine eligibility for transcripted college credit through Rochester Institute of Technology (RIT).

**Text and References**

There is no assigned text. All test materials will be taken from daily notes and lectures. However, reference textbooks and materials are available upon request. Students will be required to keep an Engineering Notebook that will include notes on all lecture material and lab work.

The notebook will be worth a portion of the final grade. Notebooks must be kept neat and in order by date to have points awarded, NO EXCEPTIONS.

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| **Grading Scale** | **Breakdown (per Nine Weeks)** | **Semester Average** |
| 90-100 = A | 40% Homework, Classwork, Quizzes | 45% First Nine Weeks |
| 80-89 = B | 30% Exams & Design Projects | 45% Second Nine Weeks |
| 75-79 = C | 20% Engineering Notebook & Portfolio  10% Participation | 10% Semester Exam |
| 70-74 = D | 100% Total | 100% Total |
| 69-0 = F |  |  |

**Class Expectations**

Behavior

1. Respect Property – No writing on desks, mouse pads, etc…

2. No changing/loading ANYTHING on ANY computer. Unauthorized computer use is a DIRECT violation of EPISD’s Acceptable Use Policy and can result in a permanent loss of computer privileges and/or discipline referral. This includes unauthorized internet usage, playing of games, instant messaging, copying of files, or bringing programs from home.

3. Respect Each Other – No putdowns to self or others – TEAMWORK! You are expected to be able to work with everyone in this room with a terrific attitude. ATTITUDE IS EVERYTHING!

4. During instruction, do not interrupt me or anyone else, raise your hand and wait your turn.

5. No food, drinks, or candy. Gum is okay until I find it somewhere other than your mouth. Never chew like a cow or I will make you spit it out.

6. I dismiss you from class, not the bell. You must remain at your work area until I dismiss you. Students are NOT permitted to line up at the door.

7. You will be allowed only THREE passes out of class per nine week grading period. If you are somewhere other than where I gave you permission to be, you will lose ALL future passes.

8. NO CELL PHONES IN CLASS! They MUST be left with your backpack by the front door with all ring tones muted. Having them in your pocket will not be sufficient. Any student who violates this policy will have their cell phone confiscated and turned into the front office. NO EXCEPTIONS!!

Assignments/Projects

1. NO CHEATING EVER!!!! You were accepted into the Magnet Program because of your achievements in your academics. Do yourself and your parents proud and keep up the hard work. The courses will not always be easy but cheating is not an acceptable way to handle the new challenges that face you. Cheating will result in a zero on the assignment, a “U” in conduct, and a discipline referral. This will result in your being placed on Probation and you risk losing your Magnet student status and possibly being sent back to your home campus. It’s not worth the risk, there are other ways to handle the challenges that face a Magnet student. Remember, life is all about the choices that you make, strive to make good choices.

2. Hand in all work on time!!!! 10 points will be taken off the assignment each day after the due date. Homework is due at the beginning of the period, projects and class assignments will be due at the end of the period. Late work will be accepted until the Friday of the 8th week of the 9 week grading period with a reduced grade\* for the First Semester Only! During the Second Semester late work will be accepted no more than ONE class period late with a reduced grade. Unless specified by the instructor through written permission on the assignment, no student may “Re-Do” any assignment previously submitted. This policy also applies to Homework, Classwork, Exams, Design Projects, Tests, Quizzes, Participation, Notebook grades, and Portfolio grades.

3. Missed classes and make-up work are the responsibility of the student. The student will be allowed one class day for each day absent (excused). (i.e. If absent two class days you will be allowed two class days to complete the work). Make-up work must be taken care of at the end of class or during tutoring. Do not ask for make-up work during the beginning of the class period or during the lunch hour. For scheduled absences due to school functions/sports, students are expected to notify the instructor PRIOR to the absence.

4. Design projects must be turned in on the due date, even if they are not complete. Design projects and or presentations may be made up at the discretion of the instructor IF extenuating circumstances arise. The project and the make-up work must be from the current grading period. Once a grading period is concluded, there are no grade changes. A request for an extension/remediation is done by submitting a written request to the instructor stating the reason for the failure, followed by a conference. This written request must be signed by your parents.

\*Late grade policy of 10 pts per day still applies to any assignment submitted late

\*\*Parent Note: Chapin High School requires a 24 hour notice thru the office for parent/teacher conferences. This is to provide for a more productive and positive conference. Please do not stop by the classroom unannounced to ask questions regarding the class. ALL visitors must go thru the office. A faster and more efficient method to get a quick question asked is thru email. Progress Reports can also be obtained via email, simply email me with your request and a progress report will be emailed back to you.

To assist parents/students with communication and class assignment due dates, all information can be found on the Instructor’s website. To locate your instructor’s website, go to mrlogsdonsclass.weebly.com

*In addition to the above mentioned rules, the Campus Code of conduct is in effect.*

**Consequences**

1. Warning – Verbal or Nonverbal

2. Student/Teacher Conference

3. Parent Notification

4. Detention and “Good Decision” Assignment

5. Discipline Referral

**Class Supplies (Office Depot is recommended for supplies)**

1. 1 – One inch, three ring binder with clear view front

2. 8 Tab, insertable dividers

3. 1GB (minimum size) USB Drive

4. 1 Staedtler 8-Piece Geo Set Geometry Set

5. Glue Stick (Must be with students at ALL times and will need to be replaced throughout the school year).

6. Class Item (Circle one as instructed): Kleenex, Germ-X, Lysol or Clorox Wipes

7. Other small inexpensive, consumable items will be needed for technology challenges throughout the school year. Total cost should not exceed $25.00

8. Engineering Notebook – first notebook will be provided to the student at no cost. Replacement notebooks will need to be purchased by the student at a cost of $2.00 per notebook.