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**EME 302/312: Computer Draft and Design**

**Curriculum Objectives:**

This class will expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. It gives students the opportunity to develop skills and understanding of course concepts through activity, project, and problem-based learning. Students will be challenged to continually hone their interpersonal skills, creative abilities and understanding of design process. Students will use engineering and scientific concepts in the solution of engineering design problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges throughout the course. Students will be introduced to a technique AutoCad. The course of study includes: the role of an engineer, the design process, product design, product analysis and improvement, and designing a 3- dimensional work on AutoCad.

**Course Outline:**

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| --- | --- | --- |
| Marking Period | Major Topics / Units | Student Learning Targets |
| 1 | Learning Interface AutoCad 2013, basics commands covered (Line, Circle, Rectangle, Polygons, Rotating, and Move & Copy) | Students will be able to have a better understanding of the AutoCad platform. Students will have a complete understanding of the Line, Circle, Rectangle, Polygons, Rotating, and Move commands. |
| 2 | Intermediate commands covered (Trim & Extend, Fillet, Ellipse, and Offset) | Students will begin to understand intermediate commands in AutoCad. Students will have a complete understanding at the end of the second quarter of the Trim & Extend, Fillet, Ellipse, and Offset command. |
| 3 | Advance commands covered (Polar & Rectangle Array, Chamfer, Mirror, Grips, Exploding Elements, Joining Elements, and Layers) | Students will learn more advance commands in AutoCad. Upon completion of the 3rd quarter, students will understand how to use the Array’s, Chamfer, Grips, Exploding & Joining Elements, and Layers command. |
| 4 | Introducing 3 Dimensional designs in AutoCad. | Students will begin to understand how to convert a 2D design to a 3 dimensional design in AutoCad. Students will be able to use all previous commands learned with a 3D platform. |

**Grading:** Full year grade is a cumulative of all marking periods and exams:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Full Year Grade** | **1st Marking Period** | **2nd Marking Period** | **Mid-Term Exam** | **3rd Marking Period** | **4th Marking Period** | **Final Exam** |
| **100%** | **20%** | **20%** | **10%** | **20%** | **20%** | **10%** |

Each marking period grade is calculated as given below:

|  |  |
| --- | --- |
| **Percent Weightage** | **Category** |
| **[40%]** | Assignments |
| **[25%]** | Test and Quizzes |
| **[25%]** | Projects |
| **[10%]** | Class Participation |

**Required Materials:**

1. **Composition Notebook for “Do Now’s”**
2. **One Folder**
3. **Blue or black ink pen & pencil**

**Expectations:**

**Assignments & Projects** is assigned almost every day if not completed in class, you can continue to complete at home using Schoology. It will either be checked for completion and you will be able to monitor your grade in Schoology. **Students must show all work to receive full credit. Majority of homework and projects assignments will be sent as an attachment using Schoology applications. We will fully go over everything in class.**

**Attendance:**

As the student handbook states, regular class attendance is crucial to the learning process. If a student has an excused absence from class (illness, doctor’s appointment, etc.) it is his/her responsibility to get a legal note from your parent and take it to your guidance counselor.

**Extra Help Days:**

Wednesdays 2:30-3:15

Room 220

**Parent-Teacher Communication:**

Mr. Fanek

Room 220

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