Computer Aided Drafting and Design/Pre-Engineering Technology Syllabus

A. Course Description

Students will be introduced to CADD and varies aspect of engineering. They will be familiar with the nomenclature and architecture of a typical computer aided drafting system to produce typical 2D and 3D production drawings. Students will apply their CADD skills to design/engineer varies projects. This course is recommended for students who are interested in continuing their education in a range of CAD and engineering fields at the post-secondary level or who are interested in obtaining an entry-level CAD position. It is recommended that students entering this course have successfully completed Algebra 2 and have computer and keyboarding skills.

B. Instructional Philosophy

The CADD/PET course provides students with challenging real world drawings, projects and assignments typical of CADD/engineering fields. High quality work is expected and students will be given opportunities to redo work until it meets industry standards specified during instruction. Classroom activities will include reading, research, presentations, drawings, projects and problem solving. Students will often work in teams, but will be expected to complete individual assignments in relation to the team’s work. Assessment methods will include exams, pop quizzes, drawing assignments, presentations, research projects, team projects, learning activity packets and individual projects.

C. Course Goals

1. Practice safety throughout the curriculum.
2. Demonstrate a thorough understanding of the CAD/CAM software and what purpose it serves in the CADD/Engineering industry.
3. Read, understand and communicate in trade jargon.
4. Use technology such as word processing, presentation software, and on-line research skills to complete projects and activities.
5. Develop the concept of life long learning and the importance of staying current in trade knowledge.
6. Use numeric skills and processes to solve problems.
D. Major Course Projects and Assignments

1. Drawing Assignments: Throughout the course students will produce drawings and will be evaluated on each as they meet industry standards.

   - board drawings
   - geometric constructions
   - orthographic projections
   - isometric
   - sectional views
   - auxiliary views
   - architectural plans
   - developments and patterns
   - gears
   - cams
   - weldments
   - fasteners
   - details and assemblies
   - electrical schematics

2. Applied Academic Projects (examples)

   - Research and prepare a written report and oral presentation on a career which relates to CADD or engineering.
   - Research and prepare a written report and oral presentation with visual aids on an architect describing their educational history and their architectural style.
   - Research and prepare a written report and oral presentation with visual aids on an architectural style.
   - Research and prepare a written report and oral presentation with visual aids on a new invention or project which is using robotics.
   - Research and prepare a written report and oral presentation with visual aids on a machine or mechanism which uses gears. Explain what types of gears are used, why and how the machine or mechanism works.
   - Solve math problems related to the topics being covered.

3. Learning Activity Packets: Throughout the course, students will be working in teams on learning activity packets for each piece of engineering training equipment.
• mill
• turning center
• artificial intelligent robot
• quality assurance
• pneumatics
• hydraulics
• programmable controls
• material testing
• electrical components

E. Class Attendance and Participation

To meet the objectives noted above, it is essential you come to class on a regular basis and be a frequent contributor to class discussions. Therefore, attendance is mandatory and you will be called upon to participate in class discussions and activities. You are responsible for the activities of each class period. Students should get missed notes from classmates. It is the student’s responsibility to ask the instructor about missed work. Students are expected to participate in class field trips. It is expected that you be self-motivated and guided for much of your work.

F. Assessment Plan

Students will be assessed on a total points system. They will be graded on exams, pop quizzes, drawing assignments, presentations, research projects, team projects and individual projects. Each student will be given three days from the date of returned work to correct mistakes to meet industry standards for an increase their points earned by half.

G. Grading Scale (Lenape Tech’s percentage system/letter grade)

A   92% - 100%
B   80% - 91%
C   77% - 83%
D   70% - 76%
F   69% - lower
H. Late Work Policy

For homework to be regarded on time, homework must be completed by the beginning of the period on the day it is due. As a rule, late homework will not be accepted. If you are absent on the due date, your homework is due the first day you return to class.

For all other work to be regarded on time, work must be completed and placed in the designated class drawer by the end of class on the due date. As a rule, late work will be deducted two points for each day late up to three days and then will be given a zero for the work. If absent when an assignment is due, you have three days counting the day of your return to turn in your work. You must keep up with current work during that time. Work later than three days receive a zero. It is the responsibility of the student to ask the instructor about work and activities missed due to absences.

If you are absent the day of a test, and knew about the test before your absence, you will be expected to take the test the day you return to class.

I. Classroom Rules and Behavior

- Abide by code of behavior detailed in student handbook. The computer use policy warrants extra careful attention in CADD/Pre-Engineering Technology. If not sure – ask!
- Do not eat or drink (except bottled water) in class unless you have been given special permission.
- Follow directions provided verbally and in writing.
- Come to class on time and be seated.
- Come to class prepared. (agenda, ID tag, username/password, and pencil)
- No rolling in your chairs
- Sitting or standing on desks is not permitted
- Do not abuse printer or the plotter
- Do not touch other’s belongings
- Stay seated and on task until dismissed by the teacher
- Text books and drawing supplies remain in the classroom, unless signed out for the evening

J. Classroom Materials
Students will need the following:
  • Pencil
  • Three-ring binder (2” or larger) for notes
  • Three-ring binder with clear plastic sleeve on the front (3” or larger)
  • Calculator
  • Work boots (need access to everyday)
  • Shop shirt (need access to everyday)
  • Dress pants (for field trips)

K. Office Hours/Extra Help
Students can make arrangements for extra help on Thursdays during CCR and afterschool at 2:40pm on Tuesdays and Thursdays. Please make arrangements at least one day in advance.
Lenape Tech’s CADD/Pre-Engineering Technology Policies and Procedures

I have read and understood the syllabus, and will abide by the specifications detailed for this course.

Student Name: ______________________________________________________________

Student Signature: ___________________________ Date: __________

Parent/Guardian Name: _______________________________________________________

Parent/Guardian Signature: ___________________________ Date: __________