CGD 4 - 2D/3D Technical Computer Graphics II

Units: 3  Hours: 2 Lecture & 3 Lab  Room No. LI126  Tues/Thurs 2:20-3:40 P.M.

COURSE SYLLABUS

Instructor: Dr. Colette Marie McLaughlin  Office Hours: by appointment
email: cmclaughlin@gavilan.edu  class webpage: http://hhh.gavilan.edu/cmclaughlin/cgd4/

Course Description: Intermediate computer graphics design course expands skills and concepts introduced in CGD 2. Develops technical design and graphic skills required to create, explain, analyze, model, render, and animate products using a problem solving process and applying knowledge of 2D and 3D technical drafting standards used in manufacturing and engineering. Other topics include industry standard computer aided drafting/design (CAD), ergonomics, materials, design/typography/color principles and theories. Projects assigned integrate technology with design and focus upon proposing, producing, and marketing useful products by developing and visually communicating ideas that are necessary for succeeding in desired design career(s).

Advisory: CGD 2 and Eligible for English 250, 260 and Mathematics 233.

Overview of activities to support learning: CGD 4 provides individual, group and team activities to develop skills and knowledge to choose then prepare for and succeed in preferred design field. Lectures, demonstrations, readings, research, field experiences as well as peers’ and your own prior knowledge are used to enhance fundamental competencies in computer graphics and design. Topics covered include freehand sketching, typography and design basics along with an overview of industry standards, orthographic drawings and 3D modeling. SolidWorks, other parametric and/or industry standard software will be used to generate design, production and presentation drawings to explain, fabricate and market simple products using computer graphics and design skills.

Expected learning outcomes: Students will be able to:

- Create working drawings of product using industry standards for selected design field
- Prepare self-explanatory presentation of product using animated 3D rendered models to understand product
- Freehand sketch 3D/pictorial drawings of object, perspectives, isometrics and axonometrics
- Design and visually communicate an ergonomically appropriate product
- Provide and use constructive criticism of schematic design to create working drawings of revised product
- Prepare self-explanatory presentation of product using animated 3D rendered models to understand product
- Provide necessary orthographic views to adequately dimension with tolerances product for fabrication.

Required Text:


Recommended Texts—From previous CGD courses:


Syllabus: The most current syllabus is available at http://hhh.gavilan.edu/cmclaughlin/cgd4

Additional Readings: Other readings may be assigned in class or provided on the class website or on iLearn throughout the semester when needed to support lectures and assignments.

Supplies: An HB pencil, eraser and paper are minimal requirements for sketching exercises. At least one 1 GB USB flash drive for file transfer and storage. Headphones are required for audio use.
Computer Graphics Lab & Arranged Hours: Gavilan’s CGD 4 requires students to complete 2.33 arranged hours per week in addition to lecture to work on projects in and outside class. Computer Graphics Lab (CGD 110) is an interdisciplinary supervised lab that supports this requirement. CGD 110 lab provides technology to complete projects, practice computer graphic skills and obtain individualized computer assisted instruction to learn a wide range of other computer graphic programs. CGD 110 may be taken for 1 to 4 units.

Evaluation/Grading: Your final grade is calculated using seven performance measures.

- Participation: credit for collaboration & contributions to your own and your peers’ success in class and lab.
- Homework: sketch assignments that demonstrate your ability to apply concepts discussed in class.
- Assignments: additional assignments to apply and practice
- Research Projects: assess your ability to find, apply and document relevant sources of information
- Design Projects: evaluates the development of your products during all design phases.
- Portfolio: grades the presentation of your projects in an electronic portfolio.
- Midterm and Final Exams: tasks that evaluate knowledge of skills and concepts.

Grades: Mastery of CGD learning outcomes is evaluated using multiple measures. You may improve grades on assignments by making necessary revisions and resubmitting work by final exam. With instructor’s approval, you may enter into a contract to substitute equivalent individualized work for required projects and exercises. If you earn excellent participation your final grade be will rounded up should your final percentage fall within one percent of next grade. Study guides for review and practice will be provided prior to each exam. Evaluation information is further described below.

Deadlines: Unless otherwise noted, work & assignments listed on iLearn and/or class website must be submitted to the instructor electronically on date due in appropriate electronic form by 5 p.m. Other than extraordinary circumstances, a late assignment will be reduced one whole letter grade each week it is overdue.

Attendance Policy: Missing 5 hours of class, without prior arrangements, may result in you being dropped without credit. Additionally, being on time and in class is directly related to your participation grade.

Honesty Policy: Students are expected to exercise academic honesty and integrity. Any form of cheating and plagiarism will result in disciplinary action and may include recommendation for dismissal.

Other Policies:
Students with special needs: If you require special services or arrangements due to hearing, visual, or other disability contact your instructor, counselor, or the Disability Resource Center.
Occupational/Vocational Students: Limited English language skills will not be a barrier to admittance to and participation in Vocational Educational Programs.