CGD 9 - Advanced Computer Graphics for Design Application II  Spring 2011

Units: 3  Hours: 2 Lecture & 3 Lab  Room No. L1126  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/cgd9/

Course Description: Advanced course in applied computer graphics and associated interdisciplinary design proficiencies required by careers that design, engineer, manufacture and/or market products. Applies theories, principles and skills covered in CGD 4/8 & integrates business, sustainable design, and hybrid products. Design solutions reflect technical understanding, aesthetic principles and addresses societal needs in a cost effective manner. Presentations include animating and rendering models of real and/or virtual products that address human factors/ergonomics, usability, life cycle analysis and sustainability. Portfolios support advancement in student-selected career pathways by communicating competence in computer graphics and design.

Advisory: Completion of CGD 4 and/or 8 with a grade of C or better.

Overview of activities to support learning: CGD 9 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 advanced drawings of product demonstrating industry technical standards for design field.
- Use a systematic research process to develop and propose visual solutions to advanced design problems.
- Develop alternatives for a design problems visually communicate how each addresses ergonomic need
- Provide constructive criticism and apply feedback during schematic design phase to improve product.
- Provide material analysis to support design decisions of 3D rendered and animated models
- Research and present critiques of sample portfolios representative of CGD field students seeks to enter.
- Demonstrate design abilities, technical proficiencies and marketing competencies in portfolio presentation.

Required Text:

Recommended Texts—From previous CGD courses:
- Williams, Robin. The Non-Designer’s Design Book 3rd Ed. Addison-Wesley, 2008

Syllabus: The most current syllabus is available at http://hhh.gavilan.edu/cmclaughlin/cgd9/cgd9syllabus2011-fall.pdf

Additional Readings: Other readings may be provided at http://hhh.gavilan.edu/cmclaughlin/appliedcgd/readings.html and in class 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 9 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.

**Contract Option:** With instructor’s approval to a written proposal by 27 Sept., you may enter into a contract to substitute equivalent individualized work for required projects and exercises, that fulfill course SLOs.

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

- **Participation:** credit for collaboration and contributions to your own and your peers’ success in class/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:** are design problems testing ability to demonstrate skills and concepts.

**Grades:** Mastery of CGD learning outcomes is evaluated using multiple measures. You may revise and resubmitting work by final exam. 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 all projects are to be submitted in appropriate format by 5 p.m. of due date (see web site). Other than extraordinary circumstances, a late assignment will be increasingly reduced 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.