CGD 8 - Advanced Computer Graphics for Design Application I  Spring 2013
Units: 3  Hours: 2 Lecture & 3 Lab  Room No. LI126  T/Th 12:50-2:10 or 2:20-3:40 P.M.

Instructor: Dr. Colette Marie McLaughlin  Office Hours: by appointment
email: cmclaughlin@gavilan.edu  class webpage: http://hhh.gavilan.edu/cmclaughlin/cgd8/

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 and 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 with a grade of C or better.

Overview of activities to support learning: CGD 8 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. Class assignments may be submitted using iLearn and class drop-boxes. Topics covered include freehand sketching, topography and design basics along with an overview of industry standards, orthographic drawings and 3D modeling. SolidWorks, Revit and/or other parametric and/or industry standard software will be used to generate design, production and presentation drawings to explain, fabricate/construct and market simple products using computer graphics and design skills.

Expected learning outcomes: Students will be able to:
- Develop and present product related to career objective using elements and principles of design.
- Visually communicate solution that meets users’ needs with industry standard 3D models and/or drawings.
- Provide and use critiques to revise and produce production drawings of product related to career goal.
- Produce industry standards production drawings of a cost effective, environmentally sound, useful product.
- Create and critique portfolios to demonstrate creative problem solving skills and technical knowledge.

Texts by CGD Concentration:

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<th>Environmental Design</th>
<th>Engineering Technologies</th>
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Additional Readings: Website/iLearn are updated with additional assignment support throughout the semester.

Syllabus: The most current syllabus is available at [http://hhh.gavilan.edu/cmclaughlin/cgd8/cgd8syllabus2013-spring.pdf](http://hhh.gavilan.edu/cmclaughlin/cgd8/cgd8syllabus2013-spring.pdf)

Supplies: An HB pencil, eraser and paper are minimal requirements for sketching exercises and at least 1 GB USB flash drive are necessary for file transfer and storage. Headphones are required for audio use.

Computer Graphics Lab & Arranged Hours: Gavilan’s CGD 8 requires students to complete 2.33 arranged hours per week in addition to lecture to work on projects in and outside class. The Computer Graphics Lab provides an interdisciplinary supervised lab to supports this requirement with cutting-edge technologies to
complete projects, practice computer graphic skills and obtain individualized computer assisted instruction to learn a wide range of other computer graphic programs. Lab hours represent 50% of your participation grade.

**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. To improve grade, revise and resubmit 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, in class, on iLearn or class homepage, all projects are to be submitted electronically in appropriate electronic form by 5 p.m. of due date (see web site). 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.