COURSE SYLLABUS

Instructor: Dr. Colette Marie McLaughlin
email: cmclaughlin@gavilan.edu

Office Hours: by appointment
class webpage: /hhh.gavilan.edu/cmclaughlin/cgd4

Course Description: Intermediate to complex 2D/3D modeling of geometric objects including working drawings, rendering and animation activities. This class allows personal student development in imagination and inventive problem solving that can be related to various creative design fields. Students work in individual and cooperative group projects. Design course expands skills and concepts introduced in CGD 2. Develops design and graphic skills required to create, explain, model, render, and animate products using a problem solving process and knowledge of ergonomics, materials, design principles and color theories. Projects assigned integrate technology with design and focus upon creating, developing and marketing useful products by developing and visually communicating ideas that are necessary for succeeding in desired design career(s).

Advisory: Completion of CGD 2 with a grade of C or better.

Overview of activities to support learning: CGD 4 helps you develop and apply computer graphics and design knowledge and skills to prepare for your selected design field. Lectures, demonstrations, readings, research, field experiences as well as peers’ and your own prior knowledge support course activities. Team and individual projects enable you to develop and combine technical expertise with design skills. You will use SolidWorks or other CAD programs to generate accurate plans and models of products you design. Project based assignments require you to research, develop, detail, and present original ideas. You also will learn about and may also use applications to render and animate your designs. Electronic portfolios of your various CGD 4 projects provides you a way to demonstrate your design problem solving, computer graphics expertise and visual communication skills.

Expected learning outcomes: Students will be able to:
• Apply selected primary and secondary software to their drawings and animations.
• Research various graphic, design, and modeling software packages and special use and applications.
• Demonstrate intermediate level development in 2D/3D design and modeling for various fields.

Additionally, upon successfully completing this course you will be able to:
• Identify diverse design professions then describe computer graphics/design skills each requires.
• Propose visual solutions to intermediate design problems using a systematic research process.
• Create working drawings of product using industry standards for selected design field.
• Use SolidWorks or other graphic program to render and animate 3D models.
• Incorporate color, design and typography principles into graphics to create presentations that visually communicate design concepts and market the product.

Required Texts:

Recommended Texts: *The Non-Designer’s Design Book; AutoCAD LT 2009 for Designers; SketchUp for Dummies.*

Additional Readings: Other readings may be provided in class and at /hhh.gavilan.edu/cmclaughlin/cgd4/readings.html throughout the semester when needed to support lectures and assignments.
Supplies: An HB pencil, eraser and paper are minimal requirements for sketching exercises. It is highly recommended to purchase and use at least 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 5 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 and contributions to both 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**: are design problems testing ability to demonstrate 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.

![Grade Distribution Diagram]

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Participation</td>
<td>15%</td>
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<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Assignments</td>
<td>10%</td>
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<tr>
<td>Design Projects</td>
<td>25%</td>
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<tr>
<td>Portfolio</td>
<td>10%</td>
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<tr>
<td>Midterm</td>
<td>10%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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Deadlines: Unless otherwise noted, all work and assignments ([hh.gavilan.edu/cmclaughlin/cgd4.schedule.pdf](hh.gavilan.edu/cmclaughlin/cgd4.schedule.pdf)) are to be submitted to the instructor electronically on date due in appropriate electronic form by 5 p.m. (see web page for details). 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.