Course Syllabus

Department: Science and Technology

Date: 12/12/12

I. Course Prefix and Number: TECH 244

Course Name: Residential Design and Drafting

Credit Hours and Contact Hours: 3 credit hours / 6 contact hours

Catalog Description including pre- and co-requisites:

Students will be introduced to the fundamental concepts required for the design and drafting of residential buildings by working through the steps required for a residential project. Students will begin with conceptual design and by the end of the semester a set of construction drawings will be prepared. Topics that will be explored include the building code, the energy code, presentation drawings, construction drawings, site plans, floor plans, elevations, sections, foundations, framing, and schedules. Prerequisites: TECH 106 and TECH 130 or permission of the instructor.

Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

The course is required for A.A.S. Architectural Technology & Building Sciences. The course may be taken as a technology elective for A.A.S. Mechanical Technology. Students in other programs may take the course if they have the appropriate background.

II. Course Student Learning Outcomes:

Students will:
1. Identify the issues, objectives, and constraints related to residential design.
2. Apply a fundamental set of skills and strategies for addressing these design issues.
3. Read, interpret, and work with a range of site information such as property lines, contours, topography, and utilities; produce site plans.
4. Produce schematic plans and execute residential space planning.
5. Implement energy saving and environmentally friendly design strategies.
6. Communicate design concepts through well-organized presentation drawings and 3D computer models.
7. Apply the Residential Code of New York State.
9. Explore wood framing methods through 3D computer and/or physical models.
10. Assemble a clear, well-organized set of construction drawings.
11. Draw, annotate, and dimension residential floor plans, elevations, and building sections; produce door, window, and finish schedules.
12. Use CAD software to produce architectural drawings and models.
13. Work efficiently and properly manage drawing files and file directories.
College Learning Outcomes Addressed by the Course:

- [ ] writing
- [x] computer literacy
- [ ] oral communications
- [ ] ethics/values
- [ ] reading
- [ ] citizenship
- [ ] mathematics
- [ ] global concerns
- [ ] critical thinking
- [x] information resources

III. Assessment Measures:

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<thead>
<tr>
<th>Identified College Learning Outcomes</th>
<th>Specific Assessment Measures</th>
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<tbody>
<tr>
<td>Oral Communication</td>
<td>Students will design a residence employing strategies that save energy and/or help protect the environment. The students will present their conceptual designs. The instructor and a panel of critics will evaluate the work.</td>
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<tr>
<td>Critical Thinking (Problem Solving)</td>
<td>Students will complete construction drawings and structural models based upon their conceptual designs.</td>
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<td>Computer Literacy</td>
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<td>Global Concerns</td>
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<td>Information Resources</td>
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IV. Instructional Materials and Methods

Types of Course Materials:

Textbook, computer software. Software is provided in the CAD lab.

Methods of Instruction:

Lecture, lab, demonstrations, reading and writing assignments, drawing assignments, projects, student presentations

V. General Outline of Topics Covered:

A. Introduction
   1. The Design Process
   2. Building Codes
   3. CAD Software Overview

B. Conceptual Design
   1. Site Design
   2. Schematic Design
   3. Massing
   4. Floor Plan (Conceptual)
   5. Elevations (Conceptual)
   6. Sections (Conceptual)
   7. Layout & Presentation
C. Construction Drawings (CDs)
   1. Planning & Cartooning
   2. Building Sections (CDs)
   3. Foundation & Framing (CDs)
   4. Floor Plans (CDs)
   5. Elevations (CDs)
   6. Schedules & Details