Course Syllabus

Course Description

This course is the study of residential design. The student will learn how to properly generate the plans for a single family residence using Parametric modeling software software. The student will learn how to draw all plans necessary for a given project to be constructed according to all building and energy codes. The student will learn how to evaluate a given piece of property and design a home for the property that uses the least amount of energy as possible.

Course Objectives

After successfully completing the course, the student will be able to:

1. Generate plans for a residential home using computer aided design.
2. Design all floor plans necessary to construct a single family residence according to the International Residential Code and the Maine Energy Building Standards.
3. Generate cross sections of various building sections.
4. Interpret the information contained in a full set of working drawings.
5. Design a building with materials that reduce the carbon footprint of the proposed building.

Course Requirements

The content of this course will be presented in a laboratory-classroom situation. Students are expected to participate in all field assignments and attend all classes. It is the student’s responsibility to read and sign the Construction Technology Department Policy. **THIS CLASS WILL FOLLOW ALL DEPARTMENT POLICY RULES.**

Safety

Students will be required to adhere to all department policies regarding safety.

Grading
5% Attendance
5% Print reading
20% Video Series
10% Sketching
10% Estimating and Materials
30% Final Project
20% Exam

Text, Tools and/or Supplies
Handouts and videos will be provided by the instructor. Students are required to provide personal safety equipment, a calculator, and a flash drive.

End-of-Course Evaluation
In order to gain access to final course grades, students must complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal site. Students can access the course evaluation report beginning two weeks before the end of classes. The deadline for submission of evaluations occurs 24 hours after the last day of classes each semester. Instructors will announce when the online course evaluation is available.

ADA Syllabus Statement
Southern Maine Community College is an equal opportunity/affirmative action institution and employer. For more information, please call 207-741-5798.
If you have a disabling condition and wish to request accommodations in order to have reasonable access to the programs and services offered by SMCC, you must register with the disability services coordinator, Sandra Lynham, who can be reached at 741-5923. There will be some documentation for your teachers that must be supplied before accommodations can be given. Further information about services for students with disabilities and the accommodation process is available upon request at this number.

SMCC Pay-for-Print Policy
Students can print 150 pages per semester free of charge. If you print over 150 pages, you will be charged 10 cents per page to your student billing account for tuition and fees. Leftover pages from each semester will not be rolled over to the following semester. The College’s pay-for-print system monitors printing on all public printers (i.e. those in general access labs, library printers, the Academic Achievement Center, Noisy Lounge and technology labs). Each time you log-in to the system, the print station displays the remaining print quota. Once the printing quota has been exceeded, users will be charged $0.10 per page or $.05 per side if the printer prints on both sides on their student accounts on a monthly basis. Color printouts will be charged at 11 page units. This means each color printout will count as 11 pages toward the quota and will cost $1.10.

Add-Drop Policy
Students who drop a course during the one-week “add/drop” period in the fall and spring semesters and the first three days of summer sessions receive a 100% refund of the tuition and associated fees for that course. Please note any course that meets for less than the traditional semester length, i.e., 15 weeks, has a pro-rated add/drop period. There is no refund for non-attendance.
Withdrawal Policy
A student may withdraw from a course only during the semester in which s/he is registered for that course. The withdrawal period is the second through twelfth week of the fall and spring semesters and the second through ninth week of twelve-week summer courses. This period is pro-rated for shorter-length courses. To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Enrollment Service Center (no phone calls, please). The designation “W” will appear on the transcript after a student has officially withdrawn. A course withdrawal is an uncompleted course and may adversely affect financial aid eligibility. Failure to attend or ceasing to attend class does not constitute withdrawal from the course. There is no refund associated with a withdrawal.

Plagiarism Statement
Adherence to ethical academic standards is obligatory. Cheating is a serious offense, whether it consists of taking credit for work done by another person or doing work for which another person will receive credit. Taking and using the ideas or writings of another person without clearly and fully crediting the source is plagiarism and violates the academic code as well as the Student Code of Conduct. If it is suspected that a student in any course in which s/he is enrolled has knowingly committed such a violation, the faculty member should refer the matter to the College’s Disciplinary Officer and appropriate action will be taken under the Student Code of Conduct. Sanctions may include suspension from the course and a failing grade in the course. Students have the right to appeal these actions to the Disciplinary Committee under the terms outlined in the Student Code of Conduct.
UNIT OUTLINE

Unit 1
Introduction to course content
Syllabus and lesson plan
Day 1 Introduction to Construction Design – Print Reading and scales
HOMEWORK: 01A – Architectural scales
01B – Conversions – Areas – Volumes

Unit 2
Print Reading
Day 1 – Conversions, Areas and Volumes
HOMEWORK: 01C – Architectural Drawings
Day 2 – Architectural Drawings
HOMEWORK: 01D – Residential Construction Details

Unit 3
Print Reading
Day 1 – Residential Construction documents
HOMEWORK: 01E – Residential Construction Codes and Material limits

Unit 4
Video Series 1 - Camp Model
Day 1 – Introduction to Revit and Instruction
Day 2 – Lab Video Series – Ear buds required
HOMEWORK: 02A – Video Series 1 – Camp Model

Unit 5
Video Series 2 - Annotation
Day 1 – Instruction and demonstration
Day 2 – Lab Video Series – Earbuds required
HOMEWORK: 02B – Video Series 2 – Annotation

Unit 6
Sketching
Day 1 – Slab and Pier
HOMEWORK: 03A – Slab plan and detail
Day 2 – T-Type Foundations
HOMEWORK: 03B – Pier plan and detail

Unit 7
MIDTERM and Video Series 3
Day 1 – MIDTERM
Day 2 – Video Series 3 – Slab – Earbuds required
HOMEWORK: 04A – Video Series 3 – Slab

Unit 8
Video Series 4 and 5
Day 1 – Video Series 4 – Pier – Earbuds required
HOMEWORK: 04B – Video Series 4 – Pier
Day 2 – Video Series 5 – T-Type – Earbuds required
HOMEWORK: 04C – Video Series 5 – T-Type

March Break

Unit 9
Estimating and Materials
Day 1 – Floor Framing
HOMEWORK: 05A – Estimating and Materials – Floor Framing
Day 2 – Wall framing
HOMEWORK: 05B – Estimating and Materials – Wall framing

Unit 10  Estimating and Materials Cont.
Day 1 – Roof Framing
HOMEWORK: 05C – Estimating and Materials – Roof Framing

Day 2 – Stairs - Earbuds required
HOMEWORK: 05D – Video Series 6 – Stairs

Unit 11 FP  Final Project
Day 1 – Designing a good floor plan – review of E-plans.com house plans
HOMEWORK: 06A – Scaled floor plan and elevations sketch

Day 2 – Project set-up
Creating a project template from CAMP project to use for final project

Unit 12 FP  Kitchens and Bathrooms
Day 1 – Kitchen lecture
HOMEWORK: 06B – Final Project Model

Day 2 – Bath Lecture
HOMEWORK: 06B – Final Project Model

Unit 13 FP  Doors and Windows
Day 1 – Doors and Windows
HOMEWORK: 06B – Final Project Model

Day 2 – Lab
Complete and submit 06B – Final Project Model – See due dates on portal

Unit 14 FP  Annotation of final project
Day 1 – Lab, demonstration and instruction as needed
HOMEWORK: 06C – Final Project Annotation

Day 2 – Lab, demonstration and instruction as needed
HOMEWORK: 06C – Final Project Annotation

Unit 15 FP  Annotation of final project
Day 1 – Lab, demonstration and instruction as needed
HOMEWORK: 06C – Final Project Annotation

Day 2 – Lab, demonstration and instruction as needed
HOMEWORK: 06C – Final Project Annotation

Unit 16  Final Project and FINAL EXAM
Day 1 – Lab and review
06C – Final Project Annotation is due

Day 2 – Final Exam
<table>
<thead>
<tr>
<th>Assignments</th>
<th>Due Date</th>
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<tr>
<td>01A - Print Reading - Architectural Scales</td>
<td>Monday 1/25</td>
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<td>01B - Print Reading - Conversions, areas and volumes</td>
<td>Wednesday 1/27</td>
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<td>01C - Print reading - Architectural drawings</td>
<td>Monday 2/1</td>
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<td>01D - Print Reading - Residential Construction details</td>
<td>Wednesday 2/3</td>
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<td>01E - Print Reading - Residential Construction codes and Materials limits</td>
<td>Monday 2/8</td>
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<td>02A - Video Series 1 - Camp Model</td>
<td>Wednesday 2/10</td>
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<td>02B - Video Series 2 - Annotation</td>
<td>Wednesday 2/17</td>
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<td>03A - Sketched Slab plan and detail</td>
<td>Monday 2/22</td>
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<td>03B - Sketched Pier plan and detail</td>
<td>Wednesday 2/24</td>
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<td>Midterm</td>
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<td>03C - Sketched T-Type plan and detail</td>
<td>Wednesday 3/2</td>
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<td>04A - Video Series 3 - Slab</td>
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<td>04B - Video Series 4 - Pier</td>
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<td>04C - Video Series 5 - T-Type</td>
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<td>05A - Estimating and Materials - Floor Framing</td>
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<td>05B - Estimating and Materials - Wall framing</td>
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<td>05C - Estimating and Materials - Roof Framing</td>
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<td>05D - Video Series 6 - Stairs</td>
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<td>06A - Final Project Sketch</td>
<td>Wednesday 4/6</td>
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<td>06B - Final Project - Model</td>
<td>Wednesday 4/13</td>
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<tr>
<td>06C - Final Project - Annotation</td>
<td>Monday 5/9</td>
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<tr>
<td>Final Exam</td>
<td>Wednesday 5/11</td>
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Due Dates are estimates for the semester and subject to change. See class Portal for current and up-to-date due dates.