



Architectural and Engineering Design Department (AEDD) South Portland, Maine 04106

Title: Basic Architecture CAD

Catalog Number: AEDD165

Credit Hours: 3

Total Contact Hours: 60 Lecture: 30 Lab: 30

Instructor: Instructor Name

Phone: Phone#

email: E-mail address

Course Syllabus

Course Description

This CAD based course offers the fundamentals of architectural design as it relates to light wood construction consistent with, but not limited, to residential construction. Designed for the student with prior design and CAD courses, this course introduces building elements, CAD techniques, building code requirements, and professional and regional influences.

Co-requisite(s): AEDD-100 Print Reading or AEDD-105 CAD Graphics

Course Objectives

1. Demonstrate an acceptable understanding of graphic representation as it relates to architecture.
2. Demonstrate understanding of construction methods and materials.
3. Demonstrate sound planning techniques, working within material limits and code allowances.

Topical Outline of Instruction

Architectural graphic standards AIA
Floor plans – schematic, design development and construction documentation
Foundations – pier, slab and t-type
Floor framing plans and detailing
Wall section detailing
Roof section detailing
Building sections
Stairs
Thermal and moisture protection
Doors and windows
Kitchen and bath design and codes
Elevations

Course Requirements

1. Active attendance
2. Active participation
3. Completion of all assignments

Student Evaluation and Grading

40% worksheets, 20% exams, 30% Design Project, 10% attendance

See department policies below.

Text, Tools, and/or Supplies

BUILDING CONSTRUCTION ILLUSTRATED / Francis D.K. Ching

Department Policies

1. Grading – grading policies may vary by instructor

A	4.00	9.3-10
A-	3.67	9-9.2
B+	3.33	8.7-8.9

B	3.00	8.3-86
B-	2.67	8-8.2
C+	2.33	7.7-7.9
C	2.00	7.3-7.6
C-	1.67	7.0-7.2
D+	1.33	6.7-6.9
D	1.00	6.3-6.6
F	0.00	>6.3 FAILURE
P	NONE	Equivalent to a "C" (2.0) or better
AF	0.00	Administrative Failure
I	None	Incomplete*
W	None	Official Withdrawal from course
NS	None	Failure to appear for any session of class

*Incomplete grades are given at the discretion of the Instructor. Incomplete grades may only be given after an incomplete contract between the instructor and student has been signed and submitted to Enrollment Services. Students may withdraw from a class up to the twelfth week into the semester to avoid a failing grade. Make note of the class withdrawal deadline date and time in the student handbook and academic calendar on the portal.

- Work submitted that does not meet standards will be given and "N/A Resubmit". Instructions on how to correct your work will be provided through "Redlines" (comments by instructor). All "Redlines" must be addressed before resubmitting the assignment. NO PARTIAL credit will be given unless all Redlines have been corrected.
- Late work** will drop a letter grade per week late. Assignments turned in more than 4 weeks late will result in a failing grade for that assignment. Completion of all assignments is required.
- Any student who submits work done by someone else will at the least, receive a failing grade for that assignment and must redo the assignment. Should the instructor see fit, the student involved will be reported to the Dean of Students in violation of the Student Code of Conduct which will result in the student receiving a failing grade for the class.
- Any activity, conversation or behavior that is not considered appropriate for the classroom or professional environment will result in the request that the behavior cease. If it does not, the student(s) involved will be dismissed from class and referred to the dean of Students and may not return to class until they have met with the Dean of Students, Department Chair and Instructor.
- Use of cell phones, and other electronic devices during class which are not for class purposes is prohibited. Cell phones **do not** need to be turned off, but should be set to **vibrate** or **silenced** during class. Class time is for class activities only.
- Personally owned computers are not required to be successful in this program, however they are highly recommended. All students have access to free Autodesk software downloads available at <http://students.autodesk.com/>. If you do not have access to your own computer to complete your homework, computer labs are available during open building hours 8:00 AM – 9:30 PM M-F. At least 3-9 hours of homework time outside each 3 credit course is normal and to be expected.
- Hours for faculty members are posted on the faculty member's door. You may also make appointments with faculty via e-mail.
- Only SMCC E-mail addresses will be used by faculty to communicate to students. E-mails between student and faculty must meet the following criteria:
 - The subject line has the **class code** along with a reference to the e-mail subject
 - E-mails must be signed with the student's full name as it appears on the class list.

See the full e-mail etiquette policy in **R:\General\Department Policies**.

- Attendance policy** – attendance is taken at the beginning of each class. If the student is late for a class it is the responsibility of the student to review their attendance and make sure that they have been marked Tardy rather than absent. There are no excused absences. Students are either present or absent.

- a. **For classes that meet once a week** – no more than 3 unexcused absences are allowed **total**, no more than 2 classes may be missed **in a row**. A student who misses a class will receive a warning e-mail; if two weeks in a row are missed without communication the student will receive an Administrative Fail (AF) for the class. A student who has a total of 3 classes will receive an AF.
 - b. **For classes that meet twice a week** – no more than a total of 5 unexcused absences are allowed; no more than 3 classes may be missed **in a row**. If a student fails to attend two classes in a row he/she will receive a warning e-mail. If no correspondence has been made and the student fails to show for the third class in a row, the student will receive an AF for the class. Students that have missed a total of 5 classes will receive an AF.
 - c. It is the responsibility of the student to make sure to get the course materials and assignments that were covered during his/her absence. Assignment due dates **WILL NOT BE ADJUSTED DUE TO AN ABSENCE**. See late work policy above.
11. All students are expected to take notes and maintain them for reference purposes throughout the class and future classes. Students must also be responsible for their own backup of course work. If work is lost it is **NOT** the AEDD responsibility to replace or find it.
 12. All work must follow the Technical Graphics Standards Manual for the AEDD. A copy of the manual has been placed in R:\Standards Various Sources

End-of-Course Evaluation

Students complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal. Students can access the course evaluations beginning one week before the end of classes. The deadline for submission of evaluations occurs Monday at 5 PM following the last day of the class. You will receive an email to your student email account when course evaluations are 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. Further information about services for students with disabilities and the accommodation process is available upon request at this number. Course policies about online testing are modified to suit each individual's accommodations.

SMCC Pay-for-Print Policy

Per Page Costs

Each semester students receive a \$20 printing credit. The balance resets at the end of the semester and any remaining credits are removed. The cost varies depending upon page size and whether printing is done in black and white or color.

- a. There is a \$0.10 per page fee for standard 8.5" by 11" black and white documents.

- b. The reverse sides of duplex (double-sided) documents are free.
- c. There is a \$.50 per page fee for standard 8.5" by 11" color documents.
- d. There is a \$.20 per page fee for 8.5" by 14" (legal) or 11" by 17" (tabloid) black and white documents.
- e. There is a \$1.00 per page fee for 8.5" by 14" (legal) or 11" by 17" (tabloid) color documents.

Duplex charges (printing on both sides of a page) work in the following fashion: One page is \$0.10, two pages are \$0.10, three pages are \$0.20, and four pages are \$0.20, etc. The flipsides are free, but another sheet of paper is \$0.10. Please be aware that a document with any color at all (when printed to a color printer) will by default be printed in color. You are responsible for setting the print job to print black and white if you do not need color. For directions, please go to the IT Help tab in My SMCC.

How does it work?

The College's pay-for-print system monitors printing on all printers (including those in general access labs, library printers, the Academic Achievement Center, Noisy Lounge and technology labs). Students can check the number of pages they have printed by using the Printing Balance tool available on SMCC computers (located in the lower right corner of the screen, near the clock). Departments with work study students who need to print documents for the department should contact the Help Desk at 741-5696 to have a special account set up.

Refunds

Print jobs are eligible for a refund in the event of mechanical or electronic error on the part of the printer, print server, or software used to submit the job. Jobs are not eligible for a refund in cases where the job was not set up correctly, was submitted multiple times, or the student is not satisfied with the result. To request a refund, please bring the offending print to the IT Department in the basement of the Ross Technology Center. Refunds will be granted in the form of a credit to the student's account.

Why is SMCC charging for printing?

The pay-for-print system is an effort to control escalating printing costs. Charging for printing helps offset the increasing cost of supplies and encourages students to conserve resources. To find ways to reduce your printing charges, please go to the IT Help tab on My SMCC. If you have questions about the pay-for-printing policy or your printing charges, please contact the Help Desk at 741-5696 or send an email to helpdesk@smccme.edu.

Be sure to log OUT of the system when you've finished your printing, to prevent unauthorized access to your account.

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.

Lesson Plan

Unit 1 Introduction to course content
 Syllabus and lesson plan
 Example plans

House structural anatomy and terminology

HOMEWORK: Worksheet 1A

Unit 2 Foundations: Pier
 Introductions to the three basic foundation systems: Pier, Slab and T-Type

HOMEWORK: Worksheet 2A – Pier foundations worksheet
Worksheet 2B – foundation details

Unit 3 Foundations: Slab

HOMEWORK: Worksheet 3A - Slab

Unit 4 Foundations: T-Type

HOMEWORK: Worksheet 4A – foundation plan

Unit 5

Floor framing: lumber

HOMEWORK: Worksheet 5A – Framing plan
Worksheet 5B – Pier framing materials list
Worksheet 5C – Cost comparison

Floor framing: Engineered

Worksheet 5D – Engineered wood materials list

EXAM

FOUNDATIONS & FRAMING EXAM

Unit 6

Wall construction

HOMEWORK: Worksheet 6A – wall framing elevation

Unit 7

Sections and Stairs

HOMEWORK: **Worksheet 7A** – wall section

Worksheet 7B – Stairs

Worksheet 7C – add openings for stairs and chimney to framing plan Worksheet 5A

Unit 8

Roof construction thermal and moisture protection

HOMEWORK: Worksheet 8A – add roof to the wall section Worksheet 7A

Unit 9

The floor plan

Typical residential living spaces and sizes – what kind of rooms are in an average house?
Critique of house plans.

HOMEWORK: Worksheet 9A – Revit camp

Revit Design Project 9B – Plan schematic

Unit 10

Kitchens and Bathrooms

HOMEWORK: Revit Design Project 10A – add a kitchen and bathroom to the plan from 9B

Unit 11

Doors and Windows

HOMEWORK: Revit Design Project 11A – Create a door and window schedule and tag all doors and windows from Worksheet 10A

Unit 12

Elevations

HOMEWORK: Revit Design Project 12A – Project the elevations from the plan and section information

Unit 13

Applying dimensions

HOMEWORK:

Design Project 11C – Apply dimension to Design Project 10A

FINAL

FINAL EXAM