

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

**ARCHITECTURAL DESKTOP W/LAB
CID 2115**

Class Hours: 3.0

Credit Hours: 3.0

Laboratory Hours: 0.0

Revised: Spring 05

Catalog Course Description:

An architectural modeling and drafting class using AutoDesk' s Architectural Desktop. The course will use Architectural Desktop to model walls, doors, windows, floor planes, roof, kitchen appliances, bathroom fixtures and other components of a building. The student will generate dimensioned plans, sections, elevations and wall sections from the 3D digital model. Students will also create a digital walk-through and rendered images of the model.

Entry Level Standards:

Basic knowledge of a CAD application such as AutoCAD or Microstation is required.

Prerequisites:

CID 1210 or consent of instructor.

Textbook(s) and Other Course Materials:

Textbook:

AutoDesk Architectural Desktop 2004: A Comprehensive Tutorial, Prentice Hall, H. Edward Goldberg

Reference:

Architectural Graphic Standards (McGraw-Hill)
Sweets Building Products Catalog & Sweets On-line
Standard Building Code (Southern Building Code Congress International, Inc.)

Materials:

1. Notebook
2. Architectural scale
3. Digital storage media

I. Week/Unit/Topic Basis:

Week	Topic
1-14	Over ther 14-week semester, the following topics will be covered: Class objectives and organization, Log-in procedures for computer. Review of Architectural drawing concepts, Basic CAD commands and environmentsettings. Review of Architectural drawing concepts & environment settings. Introduction to Architectural Desktop, menu structure, environment settings. Wall styles, Wall commands Door & Window styles, Door & Window commands

Roofs & Slabs
Plumbing & Appliances with utilities
Floor Plan Model
Elevations: introduction and layout
Building Sections & Wall sections
Animation

15 Final Exam Period

II. Course Objectives*:

- A. Use Architectural Desktop to draw/model a building. (a, b, c, d, e, f, g, h, k)
- B. Understand how material sizes, equipment requirements and codes requirements affect buildings. (a, b, d, e, f, g, h, k)
- C. Understand drawing and file organization. (a, b, d, e, f, g, h, k)
- D. Understand parametric relationship of a database and virtual model. (b, c, e, f, g, h, k)
- E. Use virtual model to generate standard drawings required by industry. (a, b, d, e, f, g, h, k)
- F. Be able to produce annotated architectural drawings on the computer. (a, b, d, e, f, g, h, k)
- G. Use the virtual model to analyze and verify design and code requirements. (a, b, c, d, e, f, g, h, k)
- H. Use virtual model to create rendered images & walk-through. (a, b, d, e, f, g, h, k)
- I. Have knowledge of resource materials. (a, b, d, e, f, g, h, k)
- J. Have basic understanding of other computer applications such as word processors and databases. (a, b, d, e, f, g, h, k)
- K. Develop basic set of architectural drawings required for construction. (a, b, d, e, f, g, h, k)

*Letters (a-k) reference the CID Program Outcomes (as required by ABET).

III. Instructional Processes*:

Students will:

1. Use the Architectural Desktop commands to draw a floor plan. *Communication Outcome, Technological Outcome*
2. Manipulate virtual model with parametric database. *Mathematics Outcome, Communication Outcome, Technological Outcome*
3. Evaluate model to verify design intent and code compliance. *Communication Outcome, Technical Outcome*
4. Use standard industry reference materials in electronic format and hardcopy. *Communication Outcome, Technological Outcome*
5. Use Architectural Desktop to create rendered views of virtual model. *Communication Outcome, Technological Outcome*

6. Use three-dimensional model to generate plans, sections and elevations for production drawings. *Communication Outcome, Technological Outcome*
7. Use dimensioning tools to completely and properly dimension final drawings as well as use annotation tools to completely annotate final drawing. *Technological Outcome, Mathematics Outcome*
8. Use word processing and spreadsheet to generate reports and memos and calculations. *Communication Outcome, Technological Outcome, Mathematics Outcome*
9. Use CAD application to generate plots according to industry standards. *Technological Outcome, Communication Outcome, Mathematics Outcome*
10. Complete a basic set of architectural drawings of professional quality. *Active Learning Strategies, Active Learning Strategies, Technical Outcome*

*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting course work to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Use CAD/Modeling application to create floor plans with doors, windows, appliances, and plumbing fixtures. A, B, D, E, F, I, K
2. Create virtual model combining foundation plan, floor plans, roof plans. A, B, D
3. Analyze the relationship of the various 3-D model components according to materials construction practices, aesthetic appeal and codes. A, B, F, G
4. Manipulate and modify building components to meet design changes. A, B, E
5. Use parametric database to manipulate and modify walls, slabs & roofs components. D, F, K
6. Research and use reference materials (product literature, tables, charts and example drawings). I
7. Annotate drawings according to ANSI standards for text & dimensions A, C
8. Create an animation of the 3D model of a building with materials, light sources and simple paths. A, H
9. Use AutoCAD Layout environment to organize and a set of architectural drawings. A, K
10. Use word processing and spreadsheet applications to write reports, memos and spreadsheet. J
11. Create hardcopy prints and digital prints of drawings/models. A, E, K

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

- A. Testing Procedures:

Tests, quizzes, timed drawings can be used at the instructor's discretion.

B. Laboratory Expectations:

Drawings will be assigned for completion as laboratory exercises. These drawings will comprise the majority of student's grade.

Reports and other assignments will be assigned for completion as laboratory exercises. NOTE: Laboratory assignments can not be completed during the scheduled class times. Students will be expected to schedule laboratory times to complete assignments.

C. Field Work:

The student will be expected to research additional resources (library, films, professionals, professional documents, staff, etc.).

D. Other Evaluation Methods:

A portfolio of students work will be submitted

E. Grading Scale:

A 93-100
B+ 88-92
B 83-87
C+ 78-82
C 70-77
D 60-69
F 59 and below

VI. Policies:

A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic and Student Affairs, may have requirements that are more stringent.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices: Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments. In addition to other possible disciplinary sanctions that may be imposed as a result of academic misconduct, the instructor has the authority to assign either (1) an F or zero for the assignment or (2) an F for the course. NOTE: It is expected and desirable that CID students assist other students. However, students may only submit work completed individually.

C. Accommodations for disabilities:

If you need accommodation because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be

evacuated, please inform the instructor immediately. Privately after class or in the instructor's office.

To request accommodations students must register with Services for Students with Disabilities: Goins 127 or 131, Phone: (865) 539-7153 or (865) 694-6751 Voice/TDD.

D. Other Policies:

Equipment:

Students are expected to take utmost care when using equipment provided by Pellissippi State. No tobacco use, eating, drinking will be allowed in labs. Students are not to load unauthorized software on the computers. Do not use floppy disks for CAD drawings in any other computers other than in CID labs. Students are responsible for maintaining current copies of drawings on their disks. Do not relocate computers, monitors, digitizers or keyboards without supervision by an instructor. Do not copy, delete or move files without instruction by an instructor.