



General Overview |

EM1 will consist of two course sections concentrating on theory and practice in both areas. The first section focuses on AutoCAD introducing basic and advanced commands that use the textbook below. Students will review and be tested on theoretical concepts and then apply their understanding of such concepts to complete practical exercises. The second section focuses on Revit Architecture. This focus of this section is on basic and advanced modeling techniques where students will also review and be tested on readings and concepts. Following the conceptual section of each weekly assignment students will complete practical exercises demonstrating thorough knowledge of the material covered.

Textbooks | *Both are required for the completion of the course*

Residential Design Using AutoCAD 2008: by Daniel John Stein
Perfect Paperback: 418 pages
Publisher: Schroff Development Corporation (June 8, 2007)
Language: English
ISBN-10: 1585033677
ISBN-13: 978-1585033676

Commercial Design Using Revit Architecture 2008: by Daniel John Stein
Paperback: 320 pages
Publisher: Schroff Development Corp (April 26, 2007)
Language: English
ISBN-10: 1585033758
ISBN-13: 978-1585033751

Goals |

To provide instruction in the fundamentals related to a theoretical understanding of the basic skills and principles associated with 2D and 3D visualization including but limited to line drawing, page layout, modeling, rendering, and post production process.

Structure |

The course is structured to be completed entirely online with the use of the downloaded course module and blackboard. Since there is no scheduled class meeting times it is the responsibility of the STUDENT to schedule a time to complete the required course work. Embedded within the course module are tutorials and references that will aid the student in the completion of his/her work. Teaching assistants will also be available for help by email or the use of WIMBA LIVE on blackboard.

Course Module/Blackboard Site |

The EM1 online course is embedded within a course module that you will have to download off the blackboard site and unzip on the desktop of your personal computer. The course module contains assignments, tutorials, readings, and supplemental information. The Blackboard Site contains quizzes, exams, assignment submitting, student discussion panels, WIMBA Live, and

general course information. The course module is in HTML format and is strongly encouraged to be viewed in Internet Explorer ONLY.

To Download the Course Module, download the zip file off blackboard and unzip to your personal computers desktop. Open the folder “Electronic Methods”, and select the “Shortcut to Index” icon on the folder. A prompt will appear asking you to locate the page file. Select the “Browse” button and a link box will appear. Find the “Electronic Methods” folder that should be on your desktop, enter the “pages” folder and select “index” when completed hit open and OK. This will link the course module through the shortcut created in the main Electronic Methods folder. Every time you wish to enter to course module you will only have to select the “shortcut to index” button. (you should not have to complete this step again once it is set up the first time)

Once in the Course Module, you may select EM1 to enter your course home page. On the homepage will be links to the Tutorials page, Weekly Assignments, General Course information, and Testing. The [Weekly Assignments](#) will give you information regarding each weekly assignment and required readings. The [General Course information](#) contains general information and tutorial files that will aid you in the “how to” submit assignments, and other frequently asked course questions. The [Tutorials](#) give you “click by click” walkthroughs of assignments and basic CAD/Revit commands. The [Testing](#) gives you information on quizzes and tests for the course.

Assignments |

Students will submit assignments using blackboard. Assignments and required readings can be found in the [Project Portfolio \(submittal file\)](#) located under each week of the course module. Within the downloaded PowerPoint file, you will find the required **READINGS** and **EXERCISES** for that week. In the PowerPoint file you will also find examples of the required exercises. You will export your CAD or Revit drawings as .jpeg’s and place them within the PowerPoint file. [\[Refer to the general course information section of the course module to learn how to export as a jpeg if you do not know how to do so\]](#)

Week 1: Introduction to AutoCAD / Advanced Basics

NOTE: Before you begin refer to *General Course Information* for instructions on the creating a PDF from your powerpoint files for submitting your assignments!

[Weekly Information \(.pdf\)](#) | [Project Portfolio \(submittal file\)](#) | [Flash Tutorials](#) | [Back to Top](#)

Weekly Overview: AutoCAD is the basic program used in the Architectural world today, and this week you will go through the basics of the program. Using the **Readings** as the primary tool for educating, the steps are easily spelled out to insure educational quality and understanding. Download the **Project Portfolio** (.ppt file) for samples of the assigned tasks. (1 file will be downloaded.) (You will be creating similar drawings and submit the Project Portfolio for grading.)

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Goals: To learn the basic command and viewing functions of AutoCAD and apply them to future more detailed and indepth assignments. You will learn how to navigate through the drawing, and use object toolbars as well as create simple objects.

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Final Output: 1 PowerPoint presentation that illustrates and explains your understanding of the programs basic outlined functions. (Your output will be contained within the downloaded Project Portfolio and submitted to blackboard.)

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Grading: 50 points possible. (grading based on the understanding of concepts and tasks outlined in the readings)

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Submitting Information: Submit PowerPoint file **as a PDF** to Blackboard under **Week 1 Assignment**. Please included your name and student ID in the title of your assignment. (example: *John Smith, ID #012345678, would name the file:* JohnSmith_012345678_Week 1)

Example: Week 1

Once you complete each Assignment and you have all your drawings in the PowerPoint file, you must export it as a .pdf document, [\[Refer to the general course information section of the course module to learn how to export as a .pdf if you do not know how to do so\]](#), and submit it to blackboard in the assignments section for the completed week. Please make sure your

document is named correctly according to the example given in the [Submitting Information](#) of the weekly module.

Weekly Quizzes/Readings |

Each week you will take a 5 point quiz that covers the required readings from the textbooks. This quiz will be found on blackboard under the Quizzes/Exam section. Each student MUST complete and pass (4 out of 5 is required) the quiz in order for his/her weekly assignment to be graded. If the quiz is not completed then the assignment will not be graded and no credit will be given. If a student does not pass the quiz, he/she may retake the quiz until passed.

Exams |

After the completion of each section [CAD and Revit] there will be an online exam. The exam will be multiple choice and open book/open note. The exam is meant to review the theories and concepts of each program.

Grading | 1000 points possible [500pts AutoCAD | 500pts Revit]

Weekly Assignments:	900 pts possible (90%) Grading based on completion, creativity, and understanding of material. Subtraction of points will occur when student does not demonstrate the minimum understanding requirements of the assignment.
Online Exams (2 total):	100 pts possible (10%)
Weekly Quizzes:	pass/fail basis (quizzes can be taken as many times as it takes to pass. Each quiz will be out of 5 points and students must get no less than a 4 out of 5. Quizzes cover the assigned reading material and if not completed the weekly assignment will NOT be graded, and no credit will be given for that week)

A breakdown of each assignment is located in the weekly assignments section of the Course Module.

Weekly Breakdown | *This information is also found in the Portfolio Submittal file on the Course Module. The Portfolio Submittal file is also the file used for viewing and submitting your weekly assignments*

CRITICAL DUE DATES |

Week 1 Assignment (submit on Blackboard)	May 24 th
Week 2 Assignment (submit on Blackboard)	May 31 st
Week 3 Assignment (submit on Blackboard)	June 7 th
Week 4 Assignment (submit on Blackboard)	June 14 th
Week 5 Assignment (submit on Blackboard)	June 21 st
ONLINE EXAM (must be completed on blackboard no later then	JUNE 21st
Week 6 Assignment (submit on Blackboard)	June 28 th
Week 7 Assignment (submit on Blackboard)	July 5 th
Week 8 Assignment (submit on Blackboard)	July 12 th
Week 9 Assignment (submit on Blackboard)	July 19 th
Week 10 Assignment (submit on Blackboard)	July 23 rd
ONLINE EXAM (must be completed on blackboard no later then	JULY 23rd

***NOTE: all online quizzes for each chapter are due on the date of the weekly assignment portfolio**

Week# 1

1. GETTING STARTED WITH AUTOCAD

1-1 What is AutoCAD	1-1
1-2 Overview of the AutoCAD 2005 user interface	1-3
1-3 Open, Save & Close an existing Drawing	1-8
1-4 Creating a new Drawing	1-11
1-5 Using Pan & Zoom to view your drawings	1-13
1-6 Using the AutoCAD Help system	1-19

Go to Blackboard to take [Chapter 1 Quiz CAD](#) once reading is completed

2. CRASH COURSE INTRODUCTION (The Basics)

2-1 Lines and Shapes	2-1
2-2 Object Snaps	2-13
2-3 Modify Tools	2-18
2-4 Annotation	2-30
2-5 Printing	2-33
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 2 Quiz CAD](#) once reading is completed

3. DRAWING ARCHITECTURAL OBJECTS (Draw & Modify)

3-1 Rectilinear Objects	3-1
3-2 Objects with curves	3-9
3-3 Using Layers	3-28
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 3 Quiz CAD](#) once reading is completed

Week# 2

4. Residential Project: FLOOR PLANS

4-1 Walls	4-1
4-2 Doors	4-19
4-3 Windows	4-33
4-4 Annotation and Dimensions	4-39
Self-Exam & Review Questions	4-49
Task 4-1 Fireplace (north)	4-50
Task 4-2 Main Stairway	4-52
Task 4-3 Secondary Stairway	4-54
Task 4-4 Porch	4-55
Task 4-5 Garage Steps	4-56
Task 4-6 Fireplace (south)	4-56
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 4 Quiz CAD](#) once reading is completed

5. Residential Project: EXTERIOR ELEVATIONS

5-1 Elevation outlines	5-1
5-2 Windows	5-18
5-3 Doors	5-29
5-4 Chimney, Railing and Siding	5-37
Self-Exam & Review Questions	5-52
Task 5-1 Grade Line	5-53
Task 5-2 Draw the other Chimney	5-55
Task 5-3 Print content from a web site	5-56
Task 5-4 Adding Foundation lines	5-56
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 5 Quiz CAD](#) once reading is completed

Week# 3

6. Residential Project: SECTIONS

6-1 Building Sections	6-1
6-2 Typical Wall Section	6-5
6-3 Adding Annotation to the Wall Section	6-9
6-4 Stair Section	6-13
Self-Exam & Review Questions	6-21
Task 6-1 Additional Building Sections	6-22
Task 6-2 Wall Section at Garage	6-22
Task 6-3 Hatch Wall Sections	6-22
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 6 Quiz CAD](#) once reading is completed

7. Residential Project: Plan Layout & Interior Elevations

7-1 Bathroom Layout	7-1
7-2 Bathroom Elevation	7-8
7-3 Adding Furnishings to your Floor Plan	7-21
7-4 Using Tool Palettes	7-27
Self-Exam & Review Questions	7-36
Task 7-1 Toilet Room Plan Layouts	7-37
Task 7-2 Toilet Room Elevations	7-37
Task 7-3 Furniture Layout	7-37
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 7 Quiz CAD](#) once reading is completed

8. Residential Project: Site Plan

8-1 Draw existing survey	8-1
8-2 Add House, Driveway and walks	8-9
8-3 Layout new contours	8-12
Self-Exam & Review Questions	8-20
Task 8-1 Add items to the site plan	8-21
Task 8-2 Draw another grade profile	8-21
Task 8-3 Update grade profile for each exterior elev.	8-21
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 8 Quiz CAD](#) once reading is completed

Week# 4

9. Residential Project: Schedules & Sheet Setup

9-1 Room Finish Schedule	9-1
9-2 Sheet Setup & Management (sheet sets)	9-18
9-3 Sheet Index	9-4
Self-Exam & Review Questions	9-49
Task 9-1 Create Door Schedule	9-50
Task 9-2 Place all your views on sheets	9-50
Task 9-3 Place callout bubbles on your sheets	9-50
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 9 Quiz CAD](#) once reading is completed

10. Residential Project: Lineweights & Plotting

10-1 Line weights	10-1
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10-2 Plotting: digital set	10-17
10-3 Plotting: hardcopy set	10-30
Self-Exam & Review Questions	10-40
Task 10-1 Apply line weights to all your drawings	10-41
Task 10-2 Plot all your drawings full size	10-41
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 10 Quiz CAD](#) once reading is completed

AUTOCAD EXAM: Found on Blackboard Site

Week# 5

1. GETTING STARTED WITH AUTODESK REVIT BUILDING 8

1-1 What is Autodesk Revit Building 8?	1-1
1-2 Overview of the Revit user interface	1-3
1-3 Open, Save & Close an existing Project	1-8
1-4 Creating a new Project	1-13
1-5 Using Pan & Zoom to view your drawings	1-15
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 1 Quiz REVIT](#) once reading is completed

2. Lake Cabin: FLOOR PLAN (The Basics)

2-1 Walls	2-1
2-2 Doors	2-5
2-3 Windows	2-7
2-4 Roof 2-9	
2-5 Annotation & Dimensions	2-11
2-6 Printing	2-15
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 2 Quiz REVIT](#) once reading is completed

Week# 6

3. Office Building: FLOOR PLAN (First Floor)

3-1 Project overview	3-1
3-2 Exterior walls	3-3
3-3 Interior walls	3-11
3-4 Elevators	3-19
3-5 Doors and Windows	3-25
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 3 Quiz REVIT](#) once reading is completed

4. Office Building: FLOOR PLANS (Second & Third Floors)

4-1 Copy common walls from first floor	4-1
4-2 Additional interior walls	4-7
4-3 Setting the floor-to-floor height	4-10
4-4 Stairs	4-11
Self-Exam & Review Questions	

Go to Blackboard to take [Chapter 4 Quiz REVIT](#) once reading is completed

Week# 7

5. Office Building: ROOF

5-1 Hip roof	5-1
5-2 Skylights	5-11
5-3 Roof Design options (Style, pitch & overhang)	5-15

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 5 Quiz REVIT](#) once reading is completed

6. Office Building: FLOOR SYSTEMS & REFLECTED CEILING PLANS

6-1 Floor systems	6-1
6-2 Ceiling systems (Susp. ACT & Gypsum Board)	6-10
6-3 Placing Fixtures (Lights & diffusers)	6-19
6-4 Annotations	6-23

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 6 Quiz REVIT](#) once reading is completed

Week# 8

7. Office Building: INTERIOR & EXTERIOR ELEVATIONS

7-1 Creating & viewing parametric exterior elevations	7-1
7-2 Modifying the Project model: exterior elevations	7-7
7-3 Creating & viewing parametric interior elevations	7-11
7-4 Modifying the Project model: interior elevations	7-15
7-5 Adding mullions to a curtain wall	7-17
7-6 Design Options	7-23

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 7 Quiz REVIT](#) once reading is completed

8. Office Building: SECTIONS

8-1 Specify section cutting plane in plan view	8-1
8-2 Modifying the Project model in section view	8-6
8-3 Wall Sections	8-8
8-4 Annotations	8-12

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 8 Quiz REVIT](#) once reading is completed

Week# 9

9. Office Building: FLOOR PLAN FEATURES

9-1 Toilet room layouts	9-1
9-2 Cabinets	9-8
9-3 Furniture	9-13
9-4 Adding Guardrails	9-18

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 9 Quiz REVIT](#) once reading is completed

10. Office Building: SCHEDULES

10-1 Room & Door tags	10-1
10-2 Generate a Door Schedule	10-5
10-3 Generate Room Finish Schedule	10-10

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 10 Quiz REVIT](#) once reading is completed

Week# 10

11. Office Building: PHOTO-REALISTIC RENDERINGS

11-1 Creating an exterior rendering	11-1
11-2 Rendering an isometric in section	11-12
11-3 Creating an interior rendering	11-17
11-4 Adding people to the rendering	11-26

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 11 Quiz REVIT](#) once reading is completed

12. Office Building: CONSTRUCTION DOCUMENTS SET

12-1 Setting up a sheet

12-1

12-2 Sheet Index

12-12

12-3 Printing a set of drawings

12-16

Self-Exam & Review Questions

Go to Blackboard to take [Chapter 12Quiz REVIT](#) once reading is completed

REVIT EXAM: Found on Blackboard Site