

DRFT 100 Introduction to Architecture, Engineering, and Construction (AEC) Course Map

Course Instructor: Robert E Mitchell

Program Learning Outcomes

- PLO 1: Apply appropriate drafting and technical terminology
- PLO 2: Produce technically sound drafting, design, and construction documents
- PLO 3: Demonstrate critical thinking and technical knowledge, skills, and abilities to keep pace with real-world changes
- PLO 4: Practice productive work skills

Course Objectives:

- CO 1: Define different career options in architecture, engineering, and construction (PLO 3 & 4)
- CO 2: Apply professional & productive work habits (PLO 1, 2, 3, & 4)
- CO 3: Develop good workplace skills (PLO 4)
- CO 4: Define architecture, engineering, and construction required training, educational and professional licensing requirements (PLO 3 & 4)

Module	Module Objectives (MO) (CO Alignment)	Learning Materials (LM)	Activities	Assessments
Module 0: Start Here (Aug 16-19)	MO 1. Understand module content hierarchy (CO 2 & 3) MO 2. Identify access to NMSU Canvas platform (CO 2) MO 3. Comprehend the course requirements, netiquette policy, and obtain the necessary technical capabilities (CO 2 & 3) MO 4. Comprehend instructor background and course overview (CO 1 & 4) MO 5. Identify student information (CO 1) MO 6. Build student-student video introductions and interactions (CO 3)	1) Module Structure Presentation (MO1) a) Module Approach.mp4 b) DRFT How to Approach Modules.pptx 2) Canvas Platform (MO2) 3) Participation Quiz (MO 2 & 3) 4) Course Welcome, Requirements, and Expectations Presentations (MO 1, 2, & 3) a) Welcome Letter from Your Instructor b) DRFT 100 Video Tour c) Netiquette Guide (copied with permission from Univ. of Hawaii at Hilo)-2 d) Technical Requirements 5) DRFT 100 Intro, Syllabus and Canvas Quiz (MO 1, 2, & 3) 6) Introduction of Instructor Presentations & Video (MO. 4, 5, & 6) [Instructor-Student] 7) Student Questionnaire (MO 5) [Student-Instructor] 8) Discussion Board 1 Platform (MO 5 & 6) [Student-Student]	1. Canvas access & module navigation (LM 1 & 2) 2. Attendance Participation (LM 3) 3. Watch & read Course Welcome, Requirements, & Expectations presentations (slide & video) (LM 4, & 5) 4. Watch & read introduction presentations (slide & video) (LM 6 & 7) 5. Build student-instructor & student-student interactions (LM 6, 7, & 8)	Tab 2. Log onto Canvas (MO 2/20 pts) Tab 3. Participation Quiz (MO 2 & 3/25 pts) Tab 5. Canvas, Intro, & Syllabus Quiz (MO 3 & 4/5 pts) Tab 7. Student Questionnaire (MO 5/8 pts) Tab 8. Discussion Board 1 (MO 6/50 pts)

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Module 1: Architecture, Engineering, & Construction (AEC) Careers (Aug 20-26)-	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Identify careers in Architecture, Engineering, & Construction (CO 1)	1) Canvas Platform (MO2) 2) Slide and video information presentations (MO 2) a) The World of Architecture Lecture b) Practice of Architecture c) Architectural Profession.pptx d) The World of Engineering Lecture.mp4 e) Engr Prof.pptx f) Engr Disciplines and Specialties g) MECHANICAL ENGINEERING.pptx h) INTRO TO ELECTRICAL ENGINEERING.pptx i) Careers in construction j) The World of Construction 081023.pptx 3) AEC Quiz (MO 2) 4) Construction Assignment (MO 2)	1. Complete Participation (LM 1) 2. View slide & video presentations (LM2) 3. Complete AEC Quiz (LM2) 4. Complete Construction Assignment (LM4)	Tab 1. Module 1 Participation Quiz (MO 1 & 2/25 pts) Tab 5. AEC Quiz (MO 2/10 pts) Tab 6. Construction Assignment (MO2/50 pts)
Module 2 Introduction & AEC Test #1 (Aug 27-Sep 2)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 3) MO 2. Assess understanding of introduction and AEC material. (CO 1)	1) Canvas Platform (MO1) 2) Test #1 Introduction & AEC (MO 2)	1. Complete Participation (LM 1) 2. Complete Test #1 (LM 2)	Tab 1. Participation Quiz (MO 1/25 pts) Tab 2. Test #1 - Intro & AEC (MO 1/100 pts)
Module 3: Ethics & Design (Sep 3-9)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Distinguish the basic principles and creeds and concept of design for an engineer or architect (CO 1 & 4)	1) Canvas Platform (MO1) 2) Video & slide information presentations (MO2) a) Professional Ethics b) Engr Design c) THE PROJECT DESIGN PROCESS.pptx	1. Complete Participation (LM 1) 2. View slide & video presentations (LM 2)	Tab 1. Participation Quiz (MO 1/25 pts)
Module 4: Test #2 Ethics & Design (Sep 10-16)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Assess understanding of basic principles and creeds and concept of design for an engineer or architect (CO 1 & 4)	1) Canvas Platform (MO1) 2) Study review sheet (MO 1 & 2) 3) Test #2 Study guide (MO2)	1. Complete Participation (LM 1) 2. Review for & Complete Test #2 (LM 2 & 3)	Tab 3. Test #2 Ethics & Design (MO 2/100 pts)

Module	Module Objectives (MO) (CO Alignment)	Learning Materials (LM)	Activities	Assessments
Module 5: Flowcharts (Sep 17-23)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 3) MO 2. Demonstrate the ability to create clear and organized flowcharts to represent processes or systems; such as combined Excel IF functions, and many other applications. (CO 2, 3, & 4)	1) Canvas Platform (MO 1) 2) Video & slide information presentations (MO2) a) Flowchart Video Lecture b) Flowchart Quiz c) Flowcharts Ext Version.pptx d) Flowcharts.pptx e) Video Help - How Do I Create Flow Chart Symbols in Word f) Video Help - Flowcharts Assignment	1. Complete Participation (LM 1) 2. View slide & video presentations (LM 2) 3. Develop flowchart (LM 2)	Tab 1. Participation Quiz (MO 1/25 pts) Tab 2. Flowchart quiz (MO 1 & 2/4 pts) Tab 3. Develop flowchart (MO 1 & 2/35 pts)
Module 6: Excel Basics (Sep 24-30)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 3) MO 2. Construct basic formulas and functions and basic application (CO 2 & 3)	1) Canvas Platform (MO 1) 2) Video & slide information presentations (MO2) a) Excel Basics & Functions Lecture b) Excel Basics & Functions Lecture Quiz c) Excel Basics.pptx d) EXCEL YouTube Links.docx 3) Support files (MO 2) a) Excel Home Loan Exercise.xlsx 4) “Video-help” assignment development (MO 2) a) Video Help - Loan Calculation Demonstration Part 1 of 2.mp4 b) Video Help - Loan Calculation Demonstration Part 2 of 2.mp4 5) YouTube videos (MO 2)	1. Complete Participation (LM 1) 2. View slide & video presentations (LMs 2-5) 3. Develop “Loan Table” (LM 2-5)	Tab 1. Participation Quiz (MO 1/25 pts) Tab 2. Excel Basics & Functions Lecture Quiz (MO 1/8 pts) Tab 3. Loan Table (MO 2/60 pts)
Module 7: Excel Functions (Oct 1-7)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Construct IF functions application (CO 2 & 3)	1) Canvas Platform (MO 1) 2) Video & slide information presentations (MO 2) a) Excel IF Functions.pptx b) Video Help- Excel IF Functions 3) Video help assignment development (MO 2) a) Video Help - Nested IF Function Assignment Example	1. Complete Participation (LM 1) 2. View slide & video presentations (LMs 2-3) 3. Practice function application (LM 2)	Tab 1. Participation Quiz (MO 1/25 pts) Tab 2. Functions Assignment (MO2/115 pts)

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Module 8: Excel Pivot Tables (Oct 8-14)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Apply pivot table capabilities to effectively analyze and extract answers from large dataset (CO 2 & 3)	1) Canvas Platform (MO 1) 2) Video & slide information presentations (MO 2) a) Excel Pivot Tables Lecture.pptx b) Excel Pivot Tables.pptx c) Pivot Table Data.xlsx 3) Support files (MO 2) a) Additional Pivot Table Practice.xlsx b) Pivot Table Practice 4) Video help assignment development (MO 2) a) Video Help - Basic Pivot Table Development b) Video Help - Pivot Table Sample Development 5) YouTube videos (MO 2) a) EXCEL YouTube Links Pivot Tables.docx	1. Complete Participation (LM 1) 2. View slide & video presentations (LMs 2-5) 3. Practice pivot table application (LM 2)	Tab 1. Participation Quiz (MO 1/25 pts) Tab 2. Excel “Pivot Tables” assignment (MO 1/25 pts)
Module 9: Excel Plotting (Oct 15-21)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Construct charts/graphs using available data (CO 2 & 3)	1) Canvas Platform (MO 1) 2) Video & slide information presentations (MO 2) a) Excel Plotting.pptx 3) Support files (MO 2) 4) Video help assignment development (MO 2) a) Video Help - Excel Plotting 5) YouTube videos (MO 2)	4. Complete Participation (LM 1) 5. View slide & video presentations (LMs 2-5) 6. Practice Excel plotting application (LM 2)	Tab 1. Participation Quiz (MO 1/25 pts) Tab 2. “Excel Plotting” assignment (MO 1/15 pts)
Module 10: Test #3 - Excel & Flowcharts (Oct 22-28)	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Apply Excel and Flowchart skills to complete a comprehensive test (CO 2 & 3))	1) Canvas Platform (MO 1) 2) Test #3 Study guide (MO 1) 3) Test #3 Flowcharts & Excel (MO 1)	1. Complete Participation (LM 1) 2. Review for & Complete Test #3 (LM 2 & 3)	Tab 1. Participation (MO 1/25 pts) Tab 2. Test #3 Excel & Flowcharts (MO 1/65 pts)

Module	Module Objectives (MO) (CO Alignment)	Learning Materials (LM)	Activities	Assessments
Module 11: Drawings & Drafting	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Conveying Information through multiview-specific drawings (CO 3) MO 3. Conveying Information through older style drafted drawing (CO 3)	1) Canvas Platform (MO 1) 2) Video & slide information presentations (MO 2-3) a) Introduction to Drawings.mp4 b) Drawings.pptx 3) Video help assignment development (MO 2 & 3) a) Video Help - Drawing Overview b) Video Help - Drafting Assignment 4) YouTube videos (MO 2) 5) Drafting tools required purchased by student (MO 3)	1. Complete Participation (LM 1) 2. Watch videos (LM 2-5) 3. View slide & video presentations (LMs 2-5)	Tab 1. Participation (MO 1/25 pts) Tab 2. Multiview and Perspective Drawing assignment (MO 1/100 pts) Tab 3. Drafting Isometric Object assignment (MO 1/40 pts)
Module 12: Construction Design Review & Estimating	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Review drawing plan of building for errors. MO 3. Construct a sample construction cost estimate (CO 2 & 3)	1) Canvas Platform (MO 1) 2) Video & slide information presentations (MO 2-3) a) Construction Design Drawing & Estimating 123123.pptx b) Design Drawing Reviews 121423-1.pptx 3) Video help assignment development (MO 2-3) a) Video Help - Drawing Overview	1. Complete Participation (LM 1) 2. Review and correct basic office floor plan (LM 2-3) 3. Develop wall material bid estimate (LM 3)	Tab 1. Participation (MO 1/25 pts) Tab 2. Construction Lab Part 1 (MO 1/55 pts) Tab 3. Construction Lab Part 2 (MO 1/100 pts)
Module 13: Final Exam Questions	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Assess their peers' knowledge and critical thinking abilities across different cognitive levels by designing three final exam questions that cover the subjects taught throughout the semester. (CO 1, 2, 3, & 4)	1) Canvas Platform (MO 1) 2) Provide guidelines for Final Exam question development (MO 2) a) Final Exam Question Development.pptx	1. Complete Participation (LM 1) 2. Develop Final Exam questions (LM 2)	Tab 1. Participation (MO 1/25 pts) Tab 3. Develop Final Exam Questions (MO 1/100 pts)
Module 14: Final Exam	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Demonstrate an ability to apply what has been learned in DRFT 100 to answer the questions presented in the Final Exam (CO 1-4)	1) Canvas Platform (MO 1) 2) Final Exam Study guide (MO 2) 3) Final Exam (MO 2)	1. Complete Participation (LM 1) 2. Complete Final Exam Review (LM 2) 3. Complete Final Exam (LM 2)	Tab 1. Participation (MO 1/25 pts) Tab 2. Final Exam (MO 1/150 pts)

Module	Module Objectives (MO) (CO Alignment)	Learning Materials (LM)	Activities	Assessments
Module 15: DRFT 100 Course Evaluation and Suggestions	MO 1. Develop appropriate work habits associated with weekly participation. (CO 2 & 3) MO 2. Upon completion of this module, you should have been able to evaluate the course's effectiveness across knowledge acquisition, comprehension, application, analysis, synthesis, and evaluation (CO 1-4)	1) Canvas Platform (MO 1) 2) Survey (MO 2)	1) Complete Participation (LM 1) 2) Complete survey (LM 2)	Tab 1. Participation (MO 1/25 pts) Tab 2. DRFT 100 Course Survey (MO 1/1 pts)