UAT 183: REVIT FOR FIRE PROTECTION I (UA 7025)

History

1. Dec 3, 2025 by Sera Bird (sabird)

Viewing: UAT 183 : Revit for Fire Protection I (UA 7025)
Last approved: 2025-12-03T08:04:52Z
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Effective Term
Winter 2026

Rationale and proposal summary
Update the UA course to reflect current technologies and trends in the industry.

Course Cover

Full Course Title
Revit for Fire Protection I (UA 7025)

Transcript Title
Revit for Fire Protect I 7025

Subject Code
UAT - United Association Training

Course Number
183

Department
United Assoc Dept (UAT Only) (UATD)

Banner Division
ATP

Division/College
Adv Tech/Public Serv Careers (AT)

Org Code
28200

Course Description
In this course, students will use Autodesk Revit Building Information Modeling (BIM) technology to create digital fire protection systems to be used at their local Training Center. Students will focus on the life safety systems used in the fire protection industry using HydraCAD for Revit. This course for virtual installation of wet and dry sprinkler systems will include subjects such as sprinkler location, hanging and bracing, system components, along with an introduction into hydraulic calculations. Limited to United Association program participants.

Has this course been approved for online or online blended?
Yes

Grading method
Standard Letter, Audit

CIP Code
469999 - Construction Trades, Other.

Occupational Indicator
Yes

ACS Code
130

Degree Attributes
BCL - Below College Level Pre-Reqs

Credit hours, contact hours, repeatability

Repeatable for additional credit
No

Course credits
1.5

Lecture contact hours
22.5

Lab contact hours
1.5

Total Contact Hours
24
Expected Total Contact Hours
24

Prerequisites and prerequisite skill levels

College-Level Math
No Level Required

College-Level Reading and Writing
College-level Reading and Writing

Approved Level I Prerequisite:
Academic Reading and Writing Levels of 6

Course Assessment Plan
Learning Outcome

Outcome
Design a wet-pipe sprinkler system, complete with hydraulic calculations.

Assessment #1

Assessment Tool
Outcome-related skills demonstration

Anticipated Next Assessment Year
2025

Anticipated Next Assessment Term
Summer

Assessment Cycle
Every Three Years

Anticipated assessment population
All students from all sections

How the assessment will be scored
Skills checklist

Who does the scoring?
U.A. instructors

Standard of success
80% of the students will score 80% or higher.

Assessment #2

Learning Outcome

Outcome
Design a dry-pipe sprinkler system, complete with hydraulic calculations.

Assessment #1

Assessment Tool
Outcome-related skills demonstration

Anticipated Next Assessment Year
2025

Anticipated Next Assessment Term
Summer

Assessment Cycle
Every Three Years

Anticipated assessment population
All students from all sections

How the assessment will be scored
Skills checklist

Who does the scoring?
U.A. instructors

Standard of success
80% of the students will score 80% or higher.

Assessment #2

Learning Outcome

Outcome
Design an appropriate fire pump room layout using BIM technology.

Assessment #1

Assessment Tool
Outcome-related skills demonstration

Anticipated Next Assessment Year
2025

Anticipated Next Assessment Term
Summer

Assessment Cycle
Every Three Years

Anticipated assessment population
All students from all sections

How the assessment will be scored
Skills checklist

Who does the scoring?
U.A. instructors

Standard of success
80% of the students will score 80% or higher.

Assessment #2

Course Objectives

	Objective(s)
1.	Discuss the history of fire systems, compare and contrast two-dimensional drawings to three-dimensional computer layouts.
2.	Discuss spacing and layout of sprinklers and branch lines.
3.	Discuss and create system mains and build a piping riser, hangers, and bracing for a wet and dry sprinkler system.
4.	Compare and contrast between installing the piping mains and components of wet and dry sprinkler systems using 2D drawings and BIM 360 software.
5.	Perform hydraulic calculations for water supply connections to city water mains.
6.	Discuss and create connections of water supply to a fire pump detail.
7.	Discuss the purpose of water supply connections, valve placement, and add Outside Screw and Yoke (OS&Y) valve on the suction side of the fire pump to diagrams.
8.	Compare and contrast between operating dry and wet sprinkler systems as related to Revit BIM drawings.
9.	Discuss code required components of a fire pump room layout.
10.	Design a wet sprinkler piping system using BIM technology.
11.	Calculate dimensions and material take-off of a dry sprinkler piping system for bid proposal.
12.	Design a dry sprinkler piping system using BIM technology.
13.	Calculate dimensions and material take-off of a dry sprinkler piping system for bid proposal.
14.	Design a standard fire pump room layout with predetermined measurements for system calculations.

General Education Area(s)

Area 1: Writing
No

Area 2: 2nd Writing or Communication/Speech
No

Area 3: Mathematics
No

Area 4: Natural Science
No

Area 5: Social and Behavioral Science
No

Area 6: Arts and Humanities
No

MTA General Education
No

Review

Is conditional approval requested?
No

Is this course currently conditionally approved, and you are now submitting it for full approval?
No

Key: 8839

Washtenaw Community College Comprehensive Report

UAT 183 Revit for Fire Protection I (UA 7025)
Effective Term: Fall 2020

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: United Association Department
Discipline: United Association Training
Course Number: 183
Org Number: 28200
Full Course Title: Revit for Fire Protection I (UA 7025)
Transcript Title: Revit for Fire Protect I 7025
Is Consultation with other department(s) required: No
Publish in the Following:
Reason for Submission: New Course
Change Information:
Rationale: New United Association Course
Proposed Start Semester: Fall 2020
Course Description: In this course, students will use Autodesk Revit Building Information Modeling (BIM) technology to create digital fire protection systems to be used at their local Training Center. Students will focus on the life safety systems used in the fire protection industry using HydraCAD for Revit. This course for virtual installation of wet and dry sprinkler systems will include subjects such as sprinkler location, hanging and bracing, system components, along with an introduction into hydraulic calculations. Limited to United Association program participants.

Course Credit Hours

Variable hours: No
Credits: 1.5
The following Lecture Hour fields are not divisible by 15: Student Min ,Instructor Min
Lecture Hours: Instructor: 22.5 **Student:** 22.5
The following Lab fields are not divisible by 15: Student Min, Instructor Min
Lab: Instructor: 1.5 **Student:** 1.5
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 24 **Student:** 24
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Requisites

General Education

Degree Attributes

Below College Level Pre-Reqs

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Design a wet-pipe sprinkler system, complete with hydraulic calculations.
   Assessment 1
   Assessment Tool: Skills demonstration
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 80% of the students will score 80% or higher.
   Who will score and analyze the data: U.A. instructors

2. Design a dry-pipe sprinkler system, complete with hydraulic calculations.
   Assessment 1
   Assessment Tool: Skills demonstration
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 80% of the students will score 80% or higher.
   Who will score and analyze the data: U.A. instructors

3. Design an appropriate fire pump room layout using BIM technology.
   Assessment 1
   Assessment Tool: Skills demonstration
   Assessment Date: Fall 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 80% of the students will score 80% or higher.
   Who will score and analyze the data: U.A. instructors

Course Objectives

1. Discuss the history of fire systems, compare and contrast two-dimensional drawings to three-dimensional computer layouts.
2. Discuss spacing and layout of sprinklers and branch lines.
3. Discuss and create system mains and build a piping riser for a wet and dry sprinkler system. Provide hangers and bracing of the system.
4. Compare and contrast between installing the piping mains and components of wet and dry sprinkler systems.
5. Perform hydraulic calculations for water supply connections to city water mains.
6. Discuss and create connections of water supply to a fire pump detail.
7. Discuss the purpose of valve placement, and add Outside Screw and Yoke (OS&Y) valve on the suction side of the fire pump to diagrams.

8. Discuss the purpose and locations of check valves and butterfly valves needed on discharge of fire pump.
9. Compare and contrast between operating a dry and wet sprinkler systems as related to Revit BIM drawings.
10. Discuss code required components of a fire pump room layout.
11. Design a wet sprinkler piping system using BIM technology.
12. Calculate dimensions and material take-off of a dry sprinkler piping system for bid proposal.
13. Design a dry sprinkler piping system using BIM technology.
14. Calculate dimensions and material take-off of a dry sprinkler piping system for bid proposal.
15. Design a standard fire pump room layout with predetermined measurements for system calculations.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Reviewer	Action	Date
Faculty Preparer:		
Tony Esposito	*Faculty Preparer*	*May 19, 2020*
Department Chair/Area Director:		
Marilyn Donham	*Recommend Approval*	*May 20, 2020*
Dean:		
Jimmie Baber	*Recommend Approval*	*May 27, 2020*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Jul 15, 2020*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Jul 21, 2020*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Jul 28, 2020*