Washtenaw Community College Comprehensive Report

UAT 233B Introduction to Building Information Modeling (BIM)
Effective Term: Spring/Summer 2014

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: United Association Department
Discipline: United Association Training
Course Number: 233B
Org Number: 28200
Full Course Title: Introduction to Building Information Modeling (BIM)
Transcript Title: Building Information Modeling
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Web Page
Reason for Submission: Three Year Review / Assessment Report
Change Information:
Credit hours
Total Contact Hours
Outcomes/Assessment
Objectives/Evaluation
Rationale: Course update
Proposed Start Semester: Spring/Summer 2014
Course Description: In this course, students receive an update on changes to BIM tools such as AutoCAD, NavisWorks Manage and Quickpen Pipe Designer 3D software. They explore the critical aspects of Building Information Modeling (BIM) as applied to piping coordination, fabrication and installation within the piping model production environment. Students discuss and develop skills to instruct in topics such as process and procedure issues relating to the on-the-job application of the BIM piping model within the three-dimensional environment, three-dimensional model production, simultaneous production tasking, coordination clash detection, pre-fabrication applications and electronic transfer of virtual layouts to real world installations (Total Station). Students should have a basic understanding of CAD. Limited to United Association program participants.

Course Credit Hours

Variable hours: No
Credits: 2
Lecture Hours: Instructor: 30 **Student:** 30
The following Lab fields are not divisible by 15: Student Min, Instructor Min
Lab: Instructor: 10 **Student:** 10
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 40 **Student:** 40
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

No Level Required

Requisites

General Education

Degree Attributes

Below College Level Pre-Reqs

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Explain the concepts of BIM as applied to piping coordination, fabrication and installation within the piping model production environment.
   Assessment 1
   Assessment Tool: Written exam
   Assessment Date: Spring/Summer 2014
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: rubric
   Standard of success to be used for this assessment: 75% of students will achieve 75% or above.
   Who will score and analyze the data: Departmental faculty

2. Demonstrate methods of teaching for AutoCAD software, NavisWorks Manage software and Quickpen Pipe Designer 3D software.
   Assessment 1
   Assessment Tool: Presentation
   Assessment Date: Spring/Summer 2014
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skill checklist with rubric
   Standard of success to be used for this assessment: 75% of students will achieve 75% or above.
   Who will score and analyze the data: Departmental faculty

Course Objectives

1. Recognize and use updates to BIM tools and software.
   Matched Outcomes
2. Explain the CAD Piping model production environment to journeymen and apprentices.
   Matched Outcomes
3. Develop concepts and strategies needed to teach apprentices how to identify specialized schematics used in BIM piping drawings.
   Matched Outcomes
4. Explain to apprentices and journeymen the features of AutoCAD, NavisWorks Manage and Pipe Designer 3D as applied to piping drawings.
   Matched Outcomes
5. Demonstrate selection and application of symbols and connections in CAD drawings.
   Matched Outcomes
6. Identify Total Station hardware and software components and examine the application of jobsite layout within the BIM environment.
   Matched Outcomes
7. Demonstrate the use of 3D AutoCAD software in the computer lab.
   Matched Outcomes
8. Demonstrate the use of Quickpen Pipe Designer 3D software in the computer lab.

Matched Outcomes

9. Demonstrate the use of Navisworks software in the computer lab.
   Matched Outcomes
10. Demonstrate the use of Total Station in the computer lab.
    Matched Outcomes
11. Explain the relevance and benefits of implementing BIM training for the UA.
    Matched Outcomes

New Resources for Course

All required materials provided by the UA training department.

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom
Computer workstations/lab

Reviewer	Action	Date
Faculty Preparer:		
Amanda Scheffler	*Faculty Preparer*	*Feb 02, 2014*
Department Chair/Area Director:		
Scott Klapper	*Recommend Approval*	*Feb 03, 2014*
Dean:		
Marilyn Donham	*Recommend Approval*	*Feb 05, 2014*
Vice President for Instruction:		
Bill Abernethy	*Approve*	*Mar 31, 2014*