

CSE 1112 (Approved): Introduction to Computer-Assisted Problem Solving for Construction Systems Management

Course Description

Using productivity software, especially spreadsheets and databases, to solve problems for construction management; relative/absolute cell referencing, logic, functions; relational databases, querying, project integration.

Prior Course Number: CSE 105

Transcript Abbreviation: Intr Computng CSM

Grading Plan: Letter Grade

Course Deliveries: Classroom

Course Levels: Undergrad

Student Ranks: Freshman

Course Offerings: Autumn, Spring

Flex Scheduled Course: Never

Course Frequency: Every Year

Course Length: 14 Week

Credits: 3.0

Repeatable: No

Time Distribution: 2.0 hr Lec, 2.0 hr Lab

Expected out-of-class hours per week: 5.0

Graded Component: Lecture

Credit by Examination: No

Admission Condition: No

Off Campus: Never

Campus Locations: Columbus

Prerequisites and Co-requisites:

Exclusions: Not open to students with credit for CSE 1111 or CSE 1113 or CSE 101 or 105 or CSE 200

Cross-Listings:

The course is required for this unit's degrees, majors, and/or minors: No

The course is a GEC: No

The course is an elective (for this or other units) or is a service course for other units: Yes

Subject/CIP Code: 14.0901

Subsidy Level: Baccalaureate Course

Course Goals

Be familiar with computer basics: hardware, software, OS, and communications, including how the internet works.
Be familiar with designing and testing spreadsheets to aid in estimating all aspects of construction costs by using spreadsheet features including relative/absolute cell referencing, boolean logic, reference functions, and financial functions.
Be familiar with basic concepts of a relational database, with setting up a basic relational database including input and output forms, with writing queries to obtain needed information, and with developing reports.
Be familiar with linking of spreadsheets, databases, word processing, and presentation software to automate the development of reports and presentations.

Course Topics

Topic	Lec	Rec	Lab	Cli	IS	Sem	FE	Wor
Computer basics	2.0		2.5					
Excel - writing formulas using simple functions and relative/absolute cell addressing; boolean functions; LOOKUP function; financial functions; charts	10.0		8.0					
Access; database features of Excel	6.0		3.0					
Powerpoint; object linking; Word, including mail merge	2.0		4.0					
How the internet works and how to create a simple webpage	2.0		1.0					

Representative Assignments

Logging into the system, file management, email and web browsing
Solving problems using simple Excel functions and relative/absolute cell referencing
Solving problems using multiple worksheets and financial functions
Designing your own worksheet solutions to problems - including reference functions
Creating tables in MS Access
Querying an Access database
Using MS Word and MS PowerPoint
Final project: integrating all tools to solve a construction management problem

Grades

Aspect	Percent
Labs	20%
Homework	12%
Class participation	2%
Pop quizzes	6%
Midterm	20%
Final project	10%
Final exam	30%

Representative Textbooks and Other Course Materials

Title	Author
<i>Series for Microsoft Office Bundle Including SAM Software</i>	Shelly Cashman

ABET-EAC Criterion 3 Outcomes

Course Contribution		College Outcome
***	a	An ability to apply knowledge of mathematics, science, and engineering.
**	b	An ability to design and conduct experiments, as well as to analyze and interpret data.
**	c	An ability to design a system, component, or process to meet desired needs.
	d	An ability to function on multi-disciplinary teams.
**	e	An ability to identify, formulate, and solve engineering problems.
	f	An understanding of professional and ethical responsibility.
*	g	An ability to communicate effectively.

Course Contribution		College Outcome
	h	The broad education necessary to understand the impact of engineering solutions in a global and societal context.
*	i	A recognition of the need for, and an ability to engage in life-long learning.
	j	A knowledge of contemporary issues.
***	k	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Prepared by: Bruce Weide