# Syllabus: CSCI 431 Software Engineering Tools

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February 2015

## Overview

This course is an in-depth study of user experience (UX) design with an emphasis on usability evaluation methods. Students practice hands-on techniques including: usability testing, survey design, card sorting, contextual inquiry, wireframing and rapid prototyping. Students will work in interdisciplinary teams on user experience design projects.
Prerequisites: CINS 110, CINS 465, or CSCI 430 for CSCI/CINS majors; CDES 322, CDES 327, CDES 437 or APCG 360 for other majors.
This course is required for the Computer Science BS major and is worth 3 credits.

## Instructor

Kevin Buffardi, kbuffardi@csuchico.edu, Office hours: OCNL 220 Tues/Thurs 10-12.

## Required Materials

Interaction Design: Beyond Human-Computer Interaction (2nd Edition or later)
Yvonne Rogers, Helen Sharp, Jenny Preece
There will also be selected readings, provided by the instructor

Laptop computer (Mac OSX or Windows 7+ preferred)

## Learning Outcomes

By completing this course, students will be able to:
Understand and explain the purpose and value of user-centered design; Demonstrate user inquiry methods (contextual inquiry, surveys, card sorting); Analyze results of user inquiry methods; Create low-fidelity user interface wireframes; Plan and develop prototypes for rapid-development; Create research design for a usability study; Create a recruitment and user test/interview protocol; Demonstrate fundamentals of conducting a user test/interview; Analyze findings from a user study; Create a report of usability findings and recommendations

The course addresses following broader CSCI Learning Outcomes:
***I****ntroduces,* ***P****racticed,* ***A****ssessed*
a. An ability to apply knowledge of computing and mathematics appropriate to the discipline. **(P)**; b. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution. **(P)**; c. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs. **(A)**; d. An ability to function effectively on teams to accomplish a common goal. **(A)**; e. An understanding of professional, ethical, legal, security and social issues and responsibilities. **(A)**; f. An ability to communicate effectively with a range of audiences. **(A)**; g. An ability to analyze the local and global impact of computing on individuals, organizations, and society. **(A)**; h. Recognition of the need for and an ability to engage in continuing professional development. **(P)**; i. An ability to use current techniques, skills, and tools necessary for computing practice. **(A)**; j. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. **(P)**; k. An ability to apply design and development principles in the construction of software systems of varying complexity. **(P)**

## Topics

Topics for this class include: usability, user inquiry methods, wireframing, rapid prototype development, usability evaluation methods