CS 471 Fall 2019
Syllabus

COURSE:	CS 471 Senior Capstone I. 3 credits.
Time & place:	10:30–11:30 am MWF, 535 Duckering.
Prerequisites:	CS major; senior standing; CS 311; CS 371.
INSTRUCTOR:	Glenn G. Chappell, Dept. of Computer Science.
Office:	539 Duckering.
Office hours:	11:45–12:45, 2:15–3:15 MWF on fall 2019 class days, or by appointment.
Office phone:	[474-]5736. *E-mail is preferred to phone calls.*
E-mail:	ggchappell@alaska.edu
Paper mailbox:	Inside the Computer Science Department office, 527 Duckering.
TEXTS:	Steve Krug, *Don't Make Me Think, Revisited*, 3rd ed.
	Eric Brechner, *Agile Project Management with Kanban*
	The same texts will be used in CS 472 in the coming spring semester.
WEB PAGE:	http://www.cs.uaf.edu/~chappell/class/2019_fall/cs471
	UA Blackboard Learn will be used only for assignment & exam submission

Course Topics & Goals

CS 471 is the first half of a two-semester capstone sequence comprising CS 471 (fall) and CS 472 (spring). It is intended to be taken by CS majors in the final year of their BS degree program—or in the equivalent portion of a BS/MS program. The sequence covers software engineering and project management, culminating (in CS 472) with a group software project developed for an external organization.

Course topics will include an overview of software engineering, writing as a software professional, software process models (Waterfall, Kanban, etc.), software testing (unit, integration, usability, etc.), and software-development case studies.

Upon successful completion of CS 471, students should:

- Have a basic understanding of software-engineering, project-management, and software-testing ideas and methods used in building large software systems.
- Have exposure to several software process models, primarily Waterfall and Kanban.
- Have experience performing multiple kinds of software testing, including usability testing.
- Have improved skills and knowledge in technical communications, professional ethics, and legal issues.
- Be prepared to complete a high-quality group software project in the following semester.

Important Dates

Also see the Semester Plan, on the class webpage.

Mon, Sep 2	No class (Labor Day)
Wed, Oct 16–Fri, Oct 18	No class (take-home Miderm Exam)
Mon, Oct 21	Take-home Midterm Exam due
Fri, Nov 1	Last day to withdraw ("W" on transcript)
Wed, Nov 27–Fri, Nov 29	No class (Thanksgiving)
Fri, Dec 6	Last regular class meeting
Wed, Dec 11	Final Exam 10:15 am–12:15 pm in the classroom

Procedures

Class meetings—Lecture-discussion format, with in-class group work.

Assignments—Homework assignments will reinforce lecture concepts and demonstrate application of critical thinking skills. All assignments must be done individually—except for the Case Study Slides, which is a group assignment.

Exams—Two exams will be given: a Midterm and a Final. The Midterm will be a take-home exam. The Final will be given during the final-exam period. See *Important Dates*.

Presentations—Near the end of the semester, each student will make an in-class presentation as part of a group. These will be recorded. Profession dress and delivery are expected.

Grades

Course grades will be based on points earned, using the following percentage intervals: A+ [95%,100%], A [90%,95%), A- [85%,90%), B+ [80%,85%), B [75%,80%), B- [70%,75%), C+ [65%,70%), C [60%,65%), C- [55%,60%), D+ [50%,55%), D [45%,50%), D- [40%,45%), F [0%,40%). Point totals will be as follows.

Assignment 1 Algorithm Implementation	25 pts
Assignment 2 White Paper (draft)	50 pts
Assignment 3 Software Requirements	50 pts
Assignment 4 White Paper (final)	25 pts
Assignment 5 Case Study Slides (draft)	50 pts
Assignment 6 Book Summary (draft)	50 pts
Assignment 7 Book Summary (final)	25 pts
Case Study Presentation (recorded)	25 pts
Class Participation	50 pts
Midterm Exam	75 pts
Final Exam	75 pts
TOTAL	500 pts

Policies

Students are expected to be at every class meeting on time, and are responsible for all class content, whether present or not.

Students who fail to attend the first class meeting after registering for the class, or who miss four consecutive class meetings, may be dropped/withdrawn without warning, unless prior arrangements are made with the instructor.

Academic dishonesty will not be tolerated, and will be dealt with according to UA procedures.

Students pay the CS lab fee. Payment allows access to the CS labs.

UAF academic policies: http://catalog.uaf.edu/academics-regulations
CS Department policies: http://www.cs.uaf.edu/departmental-policies

This course is designated as Writing Intensive (W). This designation applies to upper-division courses and means that a majority of graded work in the course will be derived from writing activities. Writing activities in this course will follow these rules:

- Students will complete an ungraded writing sample by the second day of class to help the instructor assess writing ability and general competence.
- Students will receive comments from the instructor on drafts of written work. In other words, students will work through a draft-and-redraft process so that they can apply feedback and become more effective writers.
- Students will meet individually with the instructor at least once during the term to discuss their writing.