Comp 170 - Introduction to Software Development

Professor: Dana Steil
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Office Hours: Mon - Friday 2:00 – 4:00
Other times by appointment

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Course Description:
This course is an introduction to the science of computer software development. The course covers the fundamental concepts of problem solving and computational algorithms, and presents an overview of the breadth of much of the computer science field. Using the C++ programming language, a study will be made of language syntax, control of program flow, algorithm implementation, modular program design, data types and structures, and file input and output. Computer science topics to be examined include machine architectures, operating systems, algorithm analysis and design, programming languages, data structures, file structures, and artificial intelligence.

Student Learning Outcomes (SLOs): Students will be able to...

1. Formulate algorithmic solutions to problems with sequence, choice, and repetition combinations.
2. Identify and eliminate syntax and logic errors in a program.
3. Use functions to build modular programs.
4. Design and develop programs that make use of single-dimensional arrays, multi-dimensional arrays, strings, file I/O, and classes.
5. Test and verify that a program satisfies specific requirements.

Check Your Email:
You are expected to check your Harding email for messages pertaining to this course daily.

Homework and Labs:
Periodic grades will be taken on homework assignments and several in-class labs. Homework and labs are due at the beginning of the class period the next class after they are assigned. All of these together will count about 15% of your final grade.

Programming Assignments:
You will have approximately five programming assignments during the semester. You will have one to two weeks to complete each of these programs. Specific due dates will be given with each assignment. Programs are approximately 25% of final grade.

Phones & Other Distractions:
During class time students may not use phones to talk, text or for any other purpose. Your ringers should be turned off before class starts. Laptops or class room machines may only be used for note taking or assignments related to the lecture in progress. Misuse of phones or computers during class will result in a 10% penalty on the following exam.

Attendance:
You are expected to attend class. **I will take attendance.** 6 or more unexcused absences will result in a 10 point deduction in your course grade. 11 unexcused absences and you will be withdrawn from the course.
2 tardies = 1 absence

Extra Credit:
You will receive one tenth of one percentage point on your final average for each time you attend the weekly departmental seminar, which is at 7:00 am on Fridays in Sci. 113. The first seminar will be in 3 weeks. There will be 15-20 seminars, thus there is a total of 1.5% -2% extra credit possible in this manner.

Late Assignments:
10% per day (max of 50%) will be deducted. Late assignments will be accepted until the first day of the last week of regular class meeting.

Food & Drink:
Please do not bring any food to class**.** Drinks are allowed in non-computer-lab rooms (be very careful with them).

Exams:
Four 1-hour exams, each worth 100 will be given during the course. These will be on every third Friday. A cumulative final exam worth 200 will be given at the conclusion of the course. If, due to serious illness or some other emergency, you are unable to take an exam as scheduled, it is your responsibility to call the instructor and leave a message on voice mail either before the exam or as soon as you are physically able. If an official school function takes you out of class on an exam date, it is your responsibility to make arrangements one week prior to the exam as to when you will take the exam. Usually it will be given early, not late. If you miss an exam for any other reason you will not be allowed to take the exam.

Grades:
Each assignment during the semester will be given a point value (weight). Your final grade will be calculated by dividing your total points earned by the total point value at the end of the semester.

Final grades makeup will be **approximately** as follows:

Quizzes, Homework, & Labs:	15%
Programming Assignments:	25%
Hour Exams:	40% (10% each)
Final Exam:	20%

Note- it is YOUR responsibility to keep copies of all programs, homework, labs, etc. which are handed back to you. Near the end of the semester you will be given a chance to verify that I have all scores recorded correctly in my grade book. If there is an error, your copies will easily allow us to resolve it.

Letter grades will be based on the 90-80-70-60 percent cutoffs for A, B, C, D.

Honors Section:
The Harding Catalog states, "Honors courses challenge and stimulate outstanding students to develop their intellectual and leadership abilities to the fullest." To set apart an honors section of Comp 170 students will:

- Complete 2 self-directed programming assignments for topics selected by the instructor
- Be exposed to more study of logic, a wider verity of algorithms and the analysis of them
- Complete a creative team based project using the General Purpose Input Output of the Raspberry Pi

Academic Integrity
Honesty and integrity are characteristics that should describe each one of us as servants of Jesus Christ. As your instructor, I pledge that I will strive for honesty and integrity in how I handle the content of this course and in how I interact with each of you. I ask that you join me in pledging to do the same.

Academic dishonesty will result in penalties up to and including dismissal from the class with a failing grade and will be reported to the Associate Provost. All instances of dishonesty will be handled according to the procedures delineated in the Harding University catalog.

Each student is expected to do his/her own work. Copying of others' assignments is NOT permitted. Working in groups, when not instructed to do so is not permitted.

Phones and other electronic devices are not permitted during exams and in-class quizzes. Use of these will at minimum result in a failing grade for the assignment.

Computer Use in Class:
PCs, Laptops, and any other form of computer may only be used in class for the purpose of taking notes or looking up information when prompted by the instructor. Any use for non-class activity such as checking email, social media, games, etc. will result in forfeiture of the privilege of using the computer during class.

Students with Disabilities:
It is the policy for Harding University to accommodate students with disabilities, pursuant to federal and state law. Therefore, any student with a *documented disability* condition (e.g. physical, learning, or psychological) who needs to arrange reasonable accommodations must contact the instructor and the Disabilities Office at the *beginning* of each semester. (If the diagnosis of the disability occurs during the academic year, the student must self---identify with the Disabilities Office *as soon as possible* in order to get academic accommodations in place for the remainder of the semester.) The Disabilities Office is located in **Room 205** in the **Student Center**, telephone, (501) 279-4019.

Assessment:
University Assessment: Harding University, since its charter in 1924, has been strongly committed to providing the best resources and environment for the teaching-learning process. The board, administration, faculty, and staff are wholeheartedly committed to full compliance with all criteria of the Higher Learning Commission of the North Central Association of Colleges and Schools. The university values continuous, rigorous assessment at every level for its potential to improve student learning and achievement and for its centrality in fulfilling the stated mission of Harding. Thus, a comprehensive assessment program has been developed that includes both the Academic units and the Administrative and Educational Support (AES) units. Specifically, all academic units will be assessed in reference to the following Expanded Statement of Institutional Purpose: The University provides programs that enable students to acquire essential knowledge, skills, and dispositions in their academic disciplines for successful careers, advanced studies, and servant leadership.

Departmental Assessment:: "Near the completion of your major in the department of Computer Science & Computer Engineering, you will be assessed by a comprehensive examination covering core courses in your major. This examination will influence your final grade in the senior capstone course."

Course Assessment and Grading: Assessment of the knowledge, skills, and dispositions of each student for the purpose of assigning a letter grade at the completion of this course will be based on the criteria set forth in the above section entitled "Grades".

Time Management Expectations:
For every class hour, the typical student should expect to spend two clock hours of problem solving, reading, reviewing, organizing notes, preparing for coming exams/quizzes and other activities that enhance learning. Because of this expectation, fulltime students should be cautious concerning their employment opportunities and how work can impact their academic progress.

Dress Code
All members of the Harding community are expected to maintain standards of modesty and decency in dress appropriate to the Christian lifestyle and consistent with professional employment expectations. For these reasons, students are expected to adhere to an established dress code. All students are expected to abide by the Student Handbook. A student may be asked to leave class or other activities if they are not in keeping with these expectations.

Steil Cup
The student in the course with the highest grade at the end of the semester will be honored with a wooden cup crafted by Dana Steil.