

CS 202: Computer Science II

Spring 2020
Syllabus and Information

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1 General Information

1.1 Contact Your Instructor

Name: Gage Golish

Email: ggolish@sycamores.indstate.edu

Phone: (812) 564-9050

Office: Root Hall A013

Office Hours: Consult UNIX Lab hours on CS website

1.2 Lecture, Office Hours

Lecture: TWRf @ 2:00 pm - 2:50 pm in Root Hall A019

Section and CRN: CS 202 001 (CRN: 12642)

Credit Hours: 3

GA Tutoring: During the fall and spring semesters, there are graduate assistants scheduled to work in the UNIX lab, Root Hall A015. This is a place where you can go to work on your programs, and receive help if necessary. **Note:** The UNIX lab will not be available as a resource during the summer semester.

1.3 Prerequisites

Undergraduate level CS 201 Minimum Grade of C.

1.4 Recommended Text

There are no required textbooks for this course. However, listed below are textbooks you may find useful in understanding the subject matter of this course.

- UNIX manual pages (accessed via the `man` command)
- *The C Programming Language* (2nd Addition) by K & R
- *Introduction to Algorithms* (3rd Addition) by Thomas Cormen

1.5 Course Announcements

Announcements regarding the course will be made both during class and via email to your @sycamores.indstate.edu email address. You should regularly check this email account or have it forwarded to an account that you check regularly. Announcements will also be made on the course's Blackboard site.

1.6 Classroom Conduct

You may not use cell phones, iPods/music players, etc. during class. You should be civil and respectful to both the instructor and your classmates, and you should arrive to class a few minutes before the scheduled lecture so you are ready for lecture to begin on time. You may use your computer during class if you are using it to follow along with the examples that are being discussed. You may not check email, Facebook, work on other courses, etc. during class.

2 Course Description

The catalog description of this course is: “This course is a continuation of CS 201. It involves a deeper study of programming languages, but emphasizes programming in a particular language. Topics include algorithm design and analysis, data structures, recursion, threads, network programming, graphics, security, and ethics.”

3 Course Outline

The first 8 weeks of the course will be using C as the main programming language. The second 8 weeks will be using C++.

- Review for programming assessment (2 weeks)
 - Introduction to C w.r.t. Python
 - Review topics on assessment, such as string manipulation, patterns, binary trees, linked lists, bit operations
- Asymptotic Analysis (1 week)
- Program memory (1 week)
 - Memory structure of a program
 - Dynamic memory allocation
- Data Structures (4 weeks)
 - Balanced binary trees
 - Hash tables
 - Heaps
 - Tries
- C++ (4 weeks)
 - Introduction to OOP, significant differences between C and C++
 - Standard template library

- Graphs (4 weeks)
 - Applications and basic theory
 - Program representations, BFS, DFS
 - Advanced algorithms

4 Grading and Assignments

The students of this course have the following responsibilities: read assigned readings before lecture, attend lecture, complete homework assignments, take in-class quizzes, take exams, and complete a project. The final grade will be calculated as follows:

- **Homework:** 30% total. There will be a new homework assignment each week. Approximately one week will be given to complete each homework assignment. Each homework will be worth 20 points. The lowest homework grade will be dropped.
- **Quizzes:** 20% total. There will be a small quiz given on Tuesday and / or Thursday of each week. Each quiz will be worth 10 points.
- **Exams:** 40% total. Three exams will be given, one at the $\frac{1}{3}$ point, one at the $\frac{2}{3}$ point, and a final exam. Each exam will be cumulative, and will be worth 100 points. In addition, there will be a culminating software or research project that will be counted as an exam grade.
- **Attendance:** 10% total. Attendance will be taken at the beginning of each class period. Excused absences will not affect this grade.

4.1 CS Course Policies

Note that this course follows all standard CS course policies. In particular check the CS course policies related to - cheating/plagiarism, attendance, missing exams. See this page for details.

4.2 Late Homework

All homework assignments will be given a preferred due date. Assignments can be turned in past the preferred due date, but any assignments turned in late will have their value multiplied by 80% (so the highest grade you can get on a late assignment is 80%). Any assignment discussed in depth in class are effectively closed, no credit will be given.

4.3 Start Homework Early

We suggest attempting a homework assignment the day it is given, or the day after, so that if you have a problem you can ask early. If you continue to have problems in trying to complete the assignment, you will have time to ask again. Many of the homework assignments require

thought and problem solving, which takes “time on the calendar” not just “time on the clock”. By that we mean that spending two hours on 3 consecutive days may be more productive than trying to spend 6 hours at once on the assignment.

4.4 Expected Amount of Work

My expectation is that an average student will spend about 4 hours *outside* of class each week (that is in addition to class time) *working productively/efficiently* (not just staring at the computer) to complete their coursework for this class. Some students may spend less time than this, and some students will spend more.

4.5 Grade Cutoffs

We try to design homework assignments and exams so that a standard cutoff for grades will be close to what you deserve. After the first exam a grade will be created in Blackboard called “Letter Grade” that is what your letter grade would be if the semester ended today. Initially, I will likely assign the following grades: 93-100 A, 90-93 A-, 87-90 B+, 83-87 B, 80-83 B-, 77-80 C+, 73-77 C, 70-73 C-, 67-70 D+, 63-67 D, 60-63 D-, 0-60 F

Our goal is that the different grades have the following rough meaning:

- **A+/A:** You can do all the assignments on your own.
- **B+/A-:** You understand nearly everything, and should be all set to use this knowledge in other courses or in a job.
- **B-/B:** Most things you understand very well and a few you might not (more towards the former for a B and more towards the latter for a C).
- **C/C+:** Learned enough and have the minimum skills to move on in the subject.
- **D+/C-:** You did put some effort in, and understand many things at a high level, but you haven’t mastered the details well enough to be able to use this knowledge in the future.
- **D-:** Students will normally not get an F if - you attend 80% of the lectures, complete some of the assignments up through the end of the course, and get nearly half of the problems on the final exam correct.
- **F:** Normally, students that get an F simply stopped doing the required work at some point.

4.6 Blackboard

The course has a blackboard site. [Click here](#) to go to blackboard. You should see this course listed under your courses for the current term. The blackboard site is only used for giving you your grades (go to the course in blackboard, then click “My Tools”, and then “My Grades”), for making announcements, and sending emails.

5 Academic Integrity

Follow the standard CS course policies in terms of what is and is not allowed on assignments found here. Please ask the instructor if you have doubts about what is considered cheating in this course.

6 Special Needs/Student Disabilities

Indiana State University recognizes that students with disabilities may have special needs that must be met to give them equal access to college programs and facilities. If you need course adaptations or accommodations because of a disability, please contact us as soon as possible in a confidential setting either after class or in my office. All conversations regarding your disability will be kept in strict confidence. Indiana State University's Student Support Services (SSS) office coordinates services for students with disabilities: documentation of a disability needs to be on file in that office before any accommodations can be provided. Student Support Services is located on the lower level of Normal Hall in the Center for Student Success and can be contacted at 812-237-2700, or you can visit the ISU website under A-Z, Disability Student Services and submit a Contact Form. Appointments to discuss accommodations with SSS staff members are encouraged.

Once a faculty member is notified by Student Support Services that a student is qualified to receive academic accommodations, a faculty member is obligated to provide or allow a reasonable classroom accommodation under ADA.

7 Disclosures Regarding Sexual Misconduct

Indiana State University fosters a campus free of sexual misconduct including sexual harassment, sexual violence, intimate partner violence, and stalking and/or any form of sex or gender discrimination. If you disclose a potential violation of the sexual misconduct policy I will need to notify the Title IX Coordinator. Students who have experienced sexual misconduct are encouraged to contact confidential resources listed below. To make a report or the Title IX Coordinator, visit the Equal Opportunity and Title IX website:

<http://www.indstate.edu/equalopportunity-titleix/titleix>

The ISU Student Counseling Center

HMSU 7th Floor
812-237-3939
www.indstate.edu/cns

The ISU Victim Advocate

Trista Gibbons, trista.gibbons@indstate.edu
HMSU 7th Floor
812-237-3939 (office)
812-230-3803 (cell)

Campus Ministries - United Campus Ministries

812-232-0186

<http://www2.indstate.edu/sao/campusministries.htm> www.unitedcampusministries.org

ucmminister2@gmail.com

321 N 7th St., Terre Haute, IN 47807

For more information on your rights and available resources:

<http://www.indstate.edu/equalopportunity-titleix/titleix>