

# CS 5020 Summer 2020 – Fundamentals of Computer Science

This course provides an intensive study of fundamental concepts in computer organization, operating systems, and software engineering.

## Contact Information

Instructor	Dr. Robert Dyer
Office Hours	By appointment
E-mail	rdyer@bgsu.edu
Office	NONE
Phone	we can Zoom

Note that office hours are virtual. This means I am available via the Chat feature in Canvas. For virtual meetings, we may need to utilize WebEX/Skype/etc to have you share your screen with me. Please email to make an appointment, and I can meet almost any time!

**NOTE:** The quickest way to reach me is **always via e-mail**. When contacting me via email, if your question is regarding code **always attach the code to the email** and a screenshot of any errors you see.

**Textbook** The course will utilize 3 books:

1. Head First Software Development
2. Operating Systems: Three Easy Pieces
3. Computer Organization and Design - 5th edition, Patterson/Hennessy

None of the books are **required** however I strongly recommend them all. Specifically the first 2 books are actually free! You can the first book on Safari books, which BGSU libraries has a subscription to ([click here](#) - note there are 2 links for the etext and it seems only the second link works). You can find the second book here: <http://pages.cs.wisc.edu/~remzi/OSTEP/>

**Outcomes for the course** After successfully completing CS 5020, students will be able to say:

- I can explain the fundamental concepts of computer organization.
- I can utilize an assembler tool to write and execute simple assembly language programs.
- I can describe process scheduling algorithms, and compare their performance.
- I can describe concurrency issues and compare approaches to solving them.
- I can describe real and virtual memory management algorithms.
- I can describe certain scheduling algorithms for device management.
- I can analyze and document software requirements for a software system.
- I can analyze and compare various software development lifecycle methods that include requirements analysis, design, implementation, testing and maintenance.

## Grading

The final grade will be composed of the following weights. (The instructor reserves the right to make changes at any time.)

### Assessments

Item	Points Each	Total
Exams (2)	100	200
Programming Assignments (3)	50	150
Quizzes (4)	20	80
Activities (10)	7	70
<b>Total</b>		<b>500</b>

### Grading Scale

Point Range	Percentage	Grade
450 - 500	90 - 100%	A
400 - 449	80 - 89%	B
350 - 399	70 - 79%	C
300 - 349	60 - 69%	D
0 - 299	below 60%	F

## Assessments

### Activities

Some time will be spent doing individual activities. The goal is to give students hands-on experience with the material. Although these activities are graded, the grade is based on attempting to complete the problem and not necessarily on solving it. This means that any valid attempt at the activity that you submit, will get full points and I will provide feedback on your attempt. You will also be able to view my official solution after submitting your attempt.

### Quizzes

Roughly each week will end with a short Canvas Quiz. Quizzes are done individually and are based on the material from the previous week's material. You will have 3 attempts to complete the quiz, and Canvas will keep the highest score out of however many attempts you make.

### Programming Assignments

There will be several programming assignments completed. To receive credit for your assignments, they must be submitted on Canvas by the due time. **There are no late submissions allowed.** Partial credit will be given for any completed portion of the assignment, so be sure to submit on time even if you are not finished with the assignment!

## **Technology**

### **Canvas**

The syllabus, all assignments, and due dates are posted on Canvas. Your grades will also be available on Canvas throughout the semester. Canvas is the main entry point for this course - everything you need to do is linked and organized from the Canvas course. Always start there!

## Course Policies

### Withdrawal Deadline

Thursday, August 6, 2020. University policy states that after this date, anybody withdrawing from the course will have the grade automatically turn into a F.

### Office Hours and Help

Please check your Canvas course site, Canvas messages, and your BGSU email regularly. [You may have your Canvas messages forwarded to your BGSU/other email, and have your BGSU email forwarded to another favorite email address, if necessary, but do check it (multiple times) daily.] I forward my own Canvas messages to my BGSU email and check my BGSU email multiple times everyday (with rare exceptions). I check BGSU email more often than I access Canvas, so if you need to contact me urgently, use both Canvas and BGSU email, if necessary multiple times. I will do my best to accommodate you ASAP, even if outside my posted office hours and without appointment. In general, if you need to see me in my office outside of my regular office hours, please make an appointment.

### Attendance

Students are expected to attend each class and be on time. For in person courses, I take attendance at the start of each lecture. For online courses, I check Canvas history to see what each student viewed and how often.

I typically use good attendance as a factor when considering final grades. I reserve the right to penalize students up to 1% of their final grade, per absence, for more than 3 un-excused absences.

### Make-up policy

If you cannot take an exam/assessment as scheduled, you (or an authorized person, only in case you are unable to do so) must contact me ahead of time with the reason. Note however that any make-up assessment normally done in groups will count 100% toward your score (there will be no averaging with the team's score). Make-ups are considered typically for health emergencies only.

### Academic honesty

All coursework for this class is expected to be YOUR OWN work. The penalty for copying someone's work (including current classmates, students from a previous offering of the course, or postings found on the web) or knowingly allowing someone to copy your work is **REMOVAL FROM THE COURSE AND GRADE OF WF**. The offense is also reported to the dean of your college. Turnitin and Moss, plagiarism detection tools, will be used in this course. I will follow the Department's policies and the University's code of academic conduct as defined in the BGSU Student Handbook. For details refer to:

1. [Department of Computer Science Academic Honesty Policy](#)
2. [BGSU Code of Academic Conduct](#)
3. [The Academic Charter, section B-I.G](#)

### Disability Policy

In accordance with the University policy, students with disabilities must verify their eligibility through the Office of Disability Services, 38 College Park Office Building, 419-372-8495 (<https://www.bgsu.edu/disability-services.html>). Contact me as soon as possible this semester to arrange any accommodations needed to assist with your success in this course.

### Religious Holidays

It is the policy of the University to make every reasonable effort allowing students to observe their religious holidays without academic penalty. In such cases, it is the obligation of the student to provide the instructor

with reasonable notice of the dates of religious holidays on which he or she will be absent. Absence from classes or examinations for religious reasons does not relieve the student of responsibility for completing required work missed. Following the necessary notification, the student should consult with the instructor to determine what appropriate alternative opportunity will be provided, allowing the student to fully complete his or her academic responsibilities ([The Academic Charter, section B-I.F-4.b](#)).

### **Classroom Environment, Language, and Behavior Expectations**

In order to promote an inclusive and constructive learning environment, demeaning, marginalizing, and otherwise negative language and behavior will not be tolerated in the classroom. Respect and courtesy toward the instructor, classmates, and classroom guests are expected. Language and behaviors that are disruptive, abusive, or harassing may result in disciplinary action as specified by the Student Code of Conduct.

### **Title IX**

Bowling Green State University (BGSU) is committed to providing a safe learning environment for all students that is free of all forms of discrimination and harassment. Sexual misconduct and relationship violence in any form are antithetical to the university's mission and core values, violate university policies, and may also violate federal and state law. Faculty members are considered "Mandatory Reporters" and are required to report incidents of sexual misconduct and relationship violence to the Title IX Coordinator. If you or someone you know has been impacted by sexual harassment, sexual assault, dating or domestic violence, or stalking, please visit [www.bgsu.edu/TitleIX](http://www.bgsu.edu/TitleIX) to access information about university support and resources.

## Tentative Course Schedule

Week	Dates	Topics
1	Jul 6-10	Software Engineering
2	Jul 13-17	Computer Organization
3	Jul 20-24	Computer Organization
4	Jul 27-31	Computer Organization
5	Aug 3-7	Operating Systems
6	Aug 10-14	Operating Systems