# CS 2010 Winter 2019 – Programming Fundamentals

### Contact Information

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|---|---|
| Instructor | Dr. Robert Dyer |
| Office Hours | MTWRF 1-2pm |
| | OR by appointment |
| E-mail | rdyer@bgsu.edu |
| Office | HAYES 244 |
| Phone | (419) 372–3469 |

### Prerequisites

Math placement score of 32 or MATH 1200 or MATH 99 or higher

### Class Meeting Time

- Mon-Fri, 2:00-4:45pm, Hayes 117
- Labs held in Hayes 020

### Textbook

The textbook is required for this course.

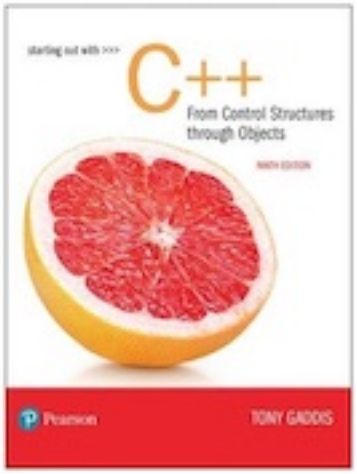


Figure 1: Book

"*Starting Out with C++ From Control Structures through Objects,*" , 9th Edition, Tony Gaddis, Pearson.

The 8th edition may also be acceptable, but will vary slightly and chapter numbers may differ.

### Outcomes for the course

After successfully completing CS 2010, students will be able to:

- Explain the fundamental concepts of procedural programming;
- Use a high-level language to write programs to solve problems;
- Analyze problem requirements to determine what type of data and processes are required;

- Design a solution using a modular approach and organize program code to implement the design;
- Debug programs and verify that the output of a program satisfies the problem requirements;
- Implement algorithms to search and sort an array; and
- Implement simple recursive functions.

## 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 |
|---|---|---|
| Final Exam | 100 | 100 |
| Programming Assignments *(4)* | 50 | 200 |
| Labs *(5)* | 10 | 50 |
| Quizzes *(5)* | 10 | 50 |
| In-class Activities *(10)* | 5 | 50 |
| Participation *(10)* | 5 | 50 |
| **Total** | | **500** |

Note that there are more labs, quizzes, and in-class activities than are graded. I will keep only the *highest* in each category, dropping your lowest several grades. However, any assessment you fail to turn in will *not be dropped*.

### Grading Scale

| Point Range | Percentage | Grade |
|---|---|---|
| 460 - 500 | 92 - 100% | A |
| 410 - 459 | 82 - 91% | B |
| 360 - 409 | 72 - 81% | C |
| 310 - 359 | 62 - 71% | D |
| 0 - 309 | below 62% | F |

## Assessments

### In-class Activities

Some class time will be spent doing individual and/or small group activities. The goal is to give students hands-on experience with the material while I and other students are available to help clarify concepts students may be struggling with. Although these activities are graded, the grade is based on attempting to complete the problem and not necessarily on solving it. It is vital that students show up for class having read the assigned material and ready to work!

### Quizzes

The start of most lectures will commence with a short, 5-question quiz. Quizzes are done individually and are based on the material from the previous lecture.

### Participation

There will be various ways of participating in class. Each lecture, you will receive a grade for participation. The grade is either 0 (for no participation), 3 (for some participation), or 5 (for active participation).

### Programming Assignments

There will be several programming assignments completed during lab time and finished outside of class. 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 assigment!

### Exam

There is only one exam this session held during the last meeting time. Exam consists of a variety of question types, including multiple choice, true/false, short answer, short programming questions, and interpreting code.

## 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!

### Plickers

Each student will be assigned their own Plickers card. Plickers cards are 3D barcodes, and depending on the orientation of the card (4 possible sides can face up) you are able to respond to questions with answers A, B, C, or D. This allows quick, interactive feedback from the class. I also use these to quickly record attendance near the start of each class.

### Gradescope

For any paper assignments/activities, I will utilize a website called Gradescope for grading purposes. I will upload a scan of the paper and enter comments in online. You have access to all of your assignments, feedback, and grades through their website. If you think something is wrong, you can initiate a re-grade request there and I will take another look. I copy the grades from Gradescope over to Canvas periodically.

### Microsoft Visual Studio 2017

For this course, you must use personal computers (PCs) running Windows. For a programming environment, we will use Visual Studio 2017, programming in C++ for Console Apps for all lab and programming assignments.

You may use the Dell computers in campus labs. The labs are worked on during leture time in Hayes 020.

You are also free to use your own Windows computer/laptop. If you choose to do so, you can obtain and install a free copy of Microsoft Visual Studio 2017 Community here: https://visualstudio.microsoft.com/downloads/ Be sure to include support for C++ during the installation process!

## Course Policies

### Withdrawal Deadline

Thursday, January 17, 2019. University policy states that after this date, anybody withdrawing from the course will have the grade automatically turn into an 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 do 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. I take attendance at the start of each lecture. 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 MINIMUM 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 a zero for the homework/project/exam/paper/presentation. 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 to access information about university support and resources.

## Tentative Course Schedule

| Week | Day | Date | Topics | Lab/HW |
|---|---|---|---|---|
| 1 | W | Jan 2 | Ch. 1 Into to Computers & Programming | Ch. 1 |
| | R | Jan 3 | Ch. 2 Intro to C++ | Ch. 2 |
| | F | Jan 4 | Ch. 2/Ch. 3 Input/Output | Prog 1 |
| 2 | M | Jan 7 | Ch. 3 Expressions | Ch. 3 |
| | T | Jan 8 | Ch. 4 Control-flow/Decisions | Prog 2 |
| | W | Jan 9 | Ch. 4/Ch. 5 Loops | Ch. 4 |
| | R | Jan 10 | Ch. 5 Loops | Prog 3 |
| | F | Jan 11 | Ch. 5 Files | Ch. 5 |
| 3 | M | Jan 14 | Ch. 6 Functions | Ch. 6-1 |
| | T | Jan 15 | Ch. 6 Functions | Ch. 6-2 |
| | W | Jan 16 | Ch. 7 Arrays | Ch. 7 |
| | R | Jan 17 | Ch. 8 Searching | Prog 4 |
| | F | Jan 18 | Ch. 8 Sorting | Ch. 8 |
| 4 | M | Jan 21 | No class - Holiday | |
| | T | Jan 22 | Ch. 20 Recursion, Course Review | Prog 5 |
| | W | Jan 23 | **Final exam** | |