# CS2010 – Programming Fundamentals

# Spring 2018

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**My Office:** Hayes 241 **CS Dept. office**: 221 Hayes Hall

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**Office Hours:** Mon/Wed 1:30 – 4:00 pm, Tue 1:30 - 2:30 pm, other times by appointment.

**Catalog Description:** Problem solving and algorithm development. Basic programming concepts including elementary data types, arrays, strings, files, control structures, and functions. Searching and sorting algorithms. Testing and debugging strategies. Prerequisite: Math placement score of 32 or MATH 1200 or MATH 1210 or higher.

**Learning Outcomes:** After successfully completing CS2010, you 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.
* Implement simple recursive functions.

**Required Textbook:** "*Starting Out with C++: From Control Structures Through Objects"*, 9th Edition, 2017, by Tony Gaddis, (Pearson) Addison-Wesley, ***ISBN-13: 978-0134498379, ISBN-10: 0134498372.*** The textbook is also on 2-hour reserve in the Main Library.

**Required Materials:** Two separate devices on which to store your C++ projects (e.g. your own computer's hard disk and a flash drive **or** *OneDrive* and a flash drive **or** two flash drives). Keeping a backup of your work for this class at all times is your responsibility.

**C++ Software:** We will use **Microsoft Visual Studio** **2017** to run C++ programs in console mode. This software is available in most campus labs on PCs and on Macs with BootCamp installed. You may also wish to install this software on your own computer. The software runs only in a Windows environment. If you have a Mac computer you will need to install BootCamp or Parallels first to create a virtual Windows environment to run Windows software.

BGSU has partnered with the *Microsoft Imagine* program to provide BGSU students with Microsoft software free of charge. You will have access to download this software starting the second week of class. To download Visual Studiofor free, start with the directions at <http://www.bgsu.edu/arts-and-sciences/computer-science/cs-documentation/obtaining-visual-studio.html>. Click the link for "Microsoft Imagine". Under the "Popular" menu, click "Visual Studio ***Community*** 2017" and add to your cart.

You will then be asked to sign in using your BGSU email as the Username and the Password sent to you by email to begin the download. If you have questions or have problems with the installation of Visual Studio, contact the Technology Support Center (TSC) – Hayes Hall 110, phone 372-0999.

**Class Web Site:** Log in to Canvas and select the **CS 2010** **Spring 2018** link under **Courses**. Select **Announcements** for recent notifications and messages. Select **Files** for the syllabus, schedule, assignments and other course documents. Select **Grades** to see all of your posted scores for the course.

**Grading:** Your final grade in the class is determined by the percentage of the total points you earn on the items listed below.

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| --- | --- |
| **Assessments** | **Grading Scale** |
| |  |  |  | | --- | --- | --- | | *Item* | *Points each* | *Total* | | Midterm, Final Exam | 100, 120 | 220 | | Quizzes (11)\* | 10 | 100 | | Programs (7) | 25 | 175 | | Labs (14)\* - NO makeups | 5 | 65 | | **Overall Total** |  | **560** | | |  |  | | --- | --- | | *Grade* | *Percentage* | | A | 92 - 100% | | B | 82 - 91% | | C | 72 - 81% | | D | 62 - 71% | | F | Below 62% | |

**Exams:** Exams include a midterm plus a common final exam given during finals week. Exams may include multiple choice, true/false, short answer, code interpretation and program coding questions. There will be **NO make-up** exams except for the most serious of reasons such as confinement in the hospital or other emergencies. For scheduled official events (such as competitions or conferences), discuss with the instructor in advance.

**Programs:** Seven program assignments, to be completed outside of class, will be given during the semester. To receive credit for these, you must complete the assignment in Visual Studio 2017 and upload the .cpp file on Canvas by midnight on the due date shown on the schedule. Late programs are not accepted for credit. Partial credit is given for completed parts of the assignment so be sure to turn in your program even if it is not done by the due time. **Start your programs early**. Planning ahead to allow yourself enough time to complete the assignments by the deadline. Last minute problems can always be expected when writing programs. Technology mishaps are **not** acceptable reasons for late assignments.

**Labs:** We will meet on Fridays in the Hayes 020 Lab. This lab is located in the basement of Hayes Hall. Ask someone else in the building if you cannot find it. The Technology Support Center is on the first floor (Hayes 110) and the CS Department office is on the second floor (Hayes 221). See the schedule for days that have a graded lab or exam. Students must attend class on lab days and complete the lab assignment during the lab time to receive credit for it, and there is **NO** makeups for labs.

\* An extra quiz and an extra lab are listed on the schedule. Your lowest quiz score will be dropped. The extra lab may be used in place of a lab you missed or as extra credit if you complete all other labs.

**Other Policies:**

**Participation and Attendance**:

Student participation is essential to this course. Obviously, good participation requires attendance; but attending without engaging is not a good participation. Students with full attendance (There will be ONE free pass for everyone) and active engagement will earn extra credit. Students are expected to display tolerance and respect in all communication. Communicate with others the same way you would in a traditional classroom. Comments and language should be respectful and appropriate for a college community. All comments should also follow acceptable grammar and spelling.

**E-mail**

It is important that you check your BGSU email AND Canvas inbox regularly since important information concerning this course will be sent to that email address. If you do not use your BGSU email regularly, you should have the email forwarded to your other email account. Visit <http://www.bgsu.edu/content/dam/BGSU/college-of-arts-and-sciences/computer-science/documents/forwarding-exchanging-emails.pdf> to learn how to forward emails.

**Codes of Conduct**

The instructor and students in this course will adhere to the University’s general Codes of Conduct defined in the *BGSU Student Handbook*. Specifically, the Code of Academic Conduct requires that students do not cheat, fabricate, plagiarize or facilitate academic dishonesty. For details, refer to Academic Honesty Policy at <https://www.bgsu.edu/student-handbook/code-of-conduct.html> .

**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. *BGSU Code of Academic Conduct* (<https://www.bgsu.edu/content/dam/BGSU/student-handbook/StudentHandbook2017/Academic-Code-of-Conduct-Chapter.pdf> )
2. *The Academic Charter*, section B-I.G (<http://www.bgsu.edu/content/dam/BGSU/faculty-senate/documents/academic-charter/B-I-G-Academic-Honesty-Policy.pdf>)

**Disability Services**

Any student who requires accommodation based on a disability should contact the instructor privately to discuss specific needs. In accordance with the University policy, if the student has a documented disability and requires accommodations to obtain equal access in this course, he or she should contact the instructor at the beginning of the semester and make this need known.

Students with disabilities must verify their eligibility through the Office of Disability Services, 38

College Park, 419-372-8495. (<http://www.bgsu.edu/disability-services.html>)

**Learning Commons**

The Learning Commons provides free tutoring services to all BGSU students and is located on the

1st floor of Jerome Library. You can find some information at <https://www.bgsu.edu/learningcommons.html>. If you need online help with the writing process, visit

<https://www.bgsu.edu/learning-commons/writing.html>.

**Technology Support**

Provides a central point of contact for faculty, staff and students for questions, problem reports,

service requests and inquiries for University computer systems and communications technologies

at BGSU. Email: tsc@bgsu.edu Phone: (419) 372-0999.

**University Libraries**

The University Libraries supports the teaching, learning and research mission of BGSU by advancing scholarship and creativity through collections and user-centered services that connect faculty and students to high quality information resources. For more information, to reserve a study space or to make an appointment:

\_ http://www.bgsu.edu/library.html

\_ http://www.bgsu.edu/library/ask-us.html

\_ (419) 372-6943

\_ libhelp@bgsu.edu

**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. <https://www.bgsu.edu/student-handbook/policies-and-procedures.html> Under "Student Life Policies - Class Attendance 2.b.

**Technology**

You are welcome to use laptops, cell phones, and other forms of technology within the classroom. However, they should only be used for completing classroom activities. You are not allowed to send or receive texts or calls that do not pertain to the class. If you are expecting a call that you must take, notify me before the session starts, set your phone to vibrate, and leave the room to take the call.

I reserve the right to confiscate technological devices that are not being used for classroom activities. You will receive them back at the end of the session.