GEORGE
MASON | Volgenau School
UNIVERSITY | of Engineering

Syllabus

Course Information		Instructor	
Course:	CS100	**Name:**	Paul Tymann
Format:	Asynchronous/Synchronous Online-Only	**Email:**	ptymann@gmu.edu
Section:	DL1-17367	**Office:**	Virtual
Semester:	Spring 2021	**Office Hours:**	Mondays-Thursdays 5:45 PM – 6:30 PM or by Appointment in Zoom
Date/Time:	TR 4:30 – 5:45 PM		
Location:	Lectures in Zoom (Link to Zoom Provided in Blackboard)		

Course Description

This course is intended to help students learn to think in the manner necessary to fully grasp the nature and power of the digital world around us. The early era of the Internet and the personal computer led to the need for "computer literacy." Now the changing nature of our global society requires that students learn new ways to think about problems and how to solve them, regardless of students' specific fields of endeavor. Through this course, students will explore major issues related to the "big ideas" of computational thinking (namely, Creativity, Abstraction, Data, Algorithms, Programming, Internet, and Societal Impact), as well as how these issues will impact their future lives. (3 credits).

Student Learning Outcomes (LO)

Upon completing the course, the student will be able to:

1. Students will be able to use technology to locate, access, evaluate, and use information, and appropriately cite resources from digital/electronic media.
2. Students will understand the core IT concepts in a range of current and emerging technologies and learn to apply appropriate technologies to a range of tasks.
3. Students will understand many of the key ethical, legal, and social issues related to information technology and how to interpret and comply with ethical principles, laws, regulations, and institutional policies.
4. Students will understand the essential issues related to information security, how to take precautions and use techniques and tools to defend against computer crimes.
5. Students will recognize the significance of the "big ideas" of computational thinking.

Topics

- Representation of ideas with bits
- Basic Boolean logic
- Devices to implement logic functions
- Programming languages for data and action
- Primitive operations and abstraction
- Algorithms for work and play
- Communication between machines
- Computing security concepts
- Basic data analysis
- Impact of automation and communication on human societies
- Human and machine intelligence

Course Prerequisites/Co-requisites
None

Technical Competencies
Basic Blackboard knowledge is assumed.

Textbooks for the class
Required: T. Bell., *The Computer Science Field Guide*; (*available free online https://csfieldguide.org.nz/en/*)

Required: Wentworth, Elkner, Allen, and Meyers, *How to Think Like a Computer Scientist: Learning with Python 3*; (*available free online at http://openbookproject.net/thinkcs/python/english3e/*)

Optional: W. Daniel Hillis, *The Pattern on the Stone: The Simple Ideas that Make Computers Work*; (available free online from the GMU University Libraries *https://wrlcgm.primo.exlibrisgroup.com/permalink/01WRLC_GML/refoc6/alma9946908707104105*)
Note: You have to login to GMU CAS to access the book when you are off-campus.

Required Materials/Software/Hardware
Computer with Internet Connection
Zoom
Blackboard
Piazza – for announcements, discussions, TA contact information
Python https://www.python.org/
PyCharm (Community version) https://www.jetbrains.com/pycharm/

Course Grading, Examinations, & Grades Composition
Your final grade is based on the following scale:

A+	(>= 98.0%)	A	(>= 92.0%)	A-	(>= 90.0%)
B+	(>= 88.0%)	B	(>= 82.0%)	B-	(>= 80.0%)
C+	(>= 78.0%)	C	(>= 72.0%)	C-	(>= 70.0%)
D (>= 60.0%)					
F (< 60.0%)					

Grading Scheme		
Assignments	**Points**	**Weight**
Weekly Worksheets	There will be 12 weekly worksheets. The scores of the lowest two worksheets will be dropped. 10 Weekly Worksheets. 30 points each for a total of 300 points.	30%
Labs	There will be 12 weekly lab assignments. The scores of the lowest two labs will be dropped. 10 Weekly Labs. 30 points for a total of 300 points.	30%
Exams	There will be a total of four exams. Each exam will be worth 50 points for a total of 200 points	20%
Final Exam	200 Points	20%
	Total Points: 1000 Points	**Total:** 100%

- Your Homework is due electronically (via Blackboard) on the date as assigned by your instructor. You may resubmit as many times as you like up until the deadline. But only the most recent upload is graded.
- For grade disputes please contact the grader (the TA in most cases) first. You must initiate a dispute within a week of receiving your grade for the dispute to be considered.
- Late work is penalized **-10% per day late, up to a maximum of 4 days.** Thus, an assignment submitted 2 days late which would have scored an 87% would instead receive a 67%. An assignment 4 days late which would have scored an 87% will receive 47%; or a Homework assignment that would have received 45/50 (90%) would receive 25/50 (50%).
- An assignment which is more than 4 days late **will not** be accepted.
- A missed exam will result in a zero.
- Please contact the instructor as soon as possible if there are extenuating circumstances which affect your ability to complete an assignment or exam.

Email Communication/Zoom/Class Recordings/Class Materials Policies

Students must use their MasonLive email account to receive important University information, including communications related to this class. I will not respond to messages sent from or send messages to a non-Mason email address. I expect all email to be written in a professional manner, please indicate your name and what course you are referring to in your email.

Please give 48 hours (usually 24 hours) for faculty to respond to email on weekdays. Emails sent on the weekend will be responded to on the following Monday.

The use of computers is required in this class. During class, you will only be permitted to work on material related to the class. Engaging in activities not related to the course (e.g., gaming, email, chat, etc.) **during our Zoom meetings** will result in a significant deduction in your participation grade.

Activities and assignments in this course will regularly use the Blackboard learning system, available at https://mymason.gmu.edu. Students are required to have regular, reliable access to a computer with an updated operating system (recommended: Windows 10 or Mac OSX 10.13 or higher) and a stable broadband Internet connection (cable modem, DSL, satellite broadband, etc., with a consistent 1.5 Mbps [megabits per second] download speed or higher.

Activities and assignments in this course will regularly use web-conferencing software (Zoom). In addition to the requirements above, students are required to have a device with a functional camera and microphone. In an emergency, students can connect through a telephone call, but video connection is the expected norm.

If in an emergency [**emergency only**] you cannot log in to our live Zoom meeting via video connection on your computer, you can either install Zoom on your smart phone and log in that way or call in [call in information provided in Blackboard].

If we get disconnected during a live Zoom meeting and it is not the end of class yet, please wait for your instructor to troubleshoot and log back in.

All course materials posted to Blackboard or other course sites are private to this class; by federal law, any materials that identify specific students (via their name, voice, or image) must not be shared with anyone not enrolled in this class.

- Video recordings — whether made by instructors or students — of class meetings that include audio, visual, or textual information from other students are private and must not be shared outside the class.
- Live video conference meetings (e.g. Collaborate or Zoom) that include audio, textual, or visual information from other students must be viewed privately and not shared with others in your household or recorded and shared outside the class.

All of our synchronous meetings in **this class will be recorded** to provide necessary information for students in this class. Recordings will be stored on Blackboard and will only be accessible to students taking this course during this semester.

Sharing of instructor-created materials, particularly materials relevant to assignments or exams, to public online "study" sites is considered a violation of Mason's Honor Code. For more information, see the Office of Academic Integrity's summary of information about online study sites.

Honor Code

All students are expected to abide by the GMU Honor Code (http://oai.gmu.edu/mason-honor-code/) and the CS Department's Honor Code (http://cs.gmu.edu/resources/honor-code/) policies. This policy is rigorously enforced. All class-related assignments are considered individual efforts unless explicitly expressed otherwise (in writing). Review the university and department honor code and present any questions regarding the policies to instructor. Cheating on any assignment will be prosecuted and result in a notification of the Honor Committee as outlined in the GMU Honor Code. Cheating by copying is often remarkably easy to detect by electronic means, so please do not put yourself at risk by cheating.

To provide an example of what cannot be done, the following are considered cheating and are not permitted:
- Directly using another student's solution to a problem, even if it is from a different semester.
- Asking a friend for a solution or paying someone for a solution.
- Searching for a solution in an outside source such as the Internet or a solution manual.
- Pasting your solutions to a public or semi-public site, including the message forum for this course (except in a private posts to the TAs).
- Collaborating or copying during exams.
- Assisting others in any of the above.

By contrast, the following is considered fair game during this course:
- Discussing the homework with other students in the class via informal, non-specific approaches to how a problem can be solved (do not share code, however).
- Getting help from classmates in solving a specific type of bug in a program (as long as it doesn't lead to discussing how the code should be structured).
- Searching on the Internet for alternate explanations of concepts discussed in class.

When learning to program, the ability to discuss with others is important to gain a footing and to better understand what is going on. At the same time, solving problems individually helps us better prepare for situation in which there are no other resources to rely on (like exams). If you are unsure whether something is fair game or cheating, ask an instructor. A good rule of thumb is that when you submit something, especially a piece of computer code, you should understand it well enough to be able to explain how it works.

University Policies

Beginning Fall 2018, there is a limit of two graded attempts for this course. A W does not count as a graded attempt. Please see the University Catalog and consult with your academic advisor if you have any questions.

Gender Identity and Pronoun use: If you wish, please share your name and gender pronouns with me and how best to address you in class and via email. I use she/her for myself and you may address me as Professor Tymann in email and verbally. You can update your chosen name and pronouns here: change name and pronouns on Mason records.

Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit http://ds.gmu.edu/ for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with

me. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email:ods@gmu.edu | Phone: (703) 993-2474.

George Mason University, an intentionally inclusive community, promotes and maintains an equitable and just work and learning environment. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability. As a member of the George Mason University community, the Computer Science department plays an integral role in building an educational environment that is committed to anti-racism and inclusive excellence. For more information on how to continuously cultivate the practice of anti-racism, see this guide from the National Museum of African American History and Culture on how to be anti-racist: https://nmaahc.si.edu/learn/talking-about-race/topics/being-antiracist.

Title IX: As a faculty member and designated "Responsible Employee," I am required to report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per university policy 1412. If you wish to speak with someone confidentially, please contact the Student Support and Advocacy Center (703-380-1434) or Counseling and Psychological Services (703-993-2380). You may also seek assistance from Mason's Title IX Coordinator (703-993-8730; titleix@gmu.edu).

Student Support Resources on Campus: https://stearnscenter.gmu.edu/knowledge-center/knowing-mason-students/student-support-resources-on-campus/.

Incomplete Grades: https://chssundergrad.gmu.edu/other-forms/incompletes.

Campus Closure due to Weather: If the campus closes or class is canceled due to weather or other concern, students should check Blackboard for updates on how to continue learning and information about any changes to events or assignments. **(FYI: if campus is closed due to weather on a scheduled lecture day, we will still meet in Zoom as scheduled, since we are not traveling to attend lecture).**

Safe Return to Campus Statement: All students taking courses with a face-to-face component are required to take Safe Return to Campus Training prior to visiting campus. Training is available in Blackboard (https://mymason.gmu.edu). Students are required to follow the university's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (www2.gmu.edu/safe-return-plan). Similarly, all students in face to face and hybrid courses must also complete the Mason COVID Health Check daily, seven days a week. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. Only students who receive a "green" notification are permitted to attend courses with a face-to-face component. If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing. Faculty are allowed to ask you to show them that you have received a Green email and are thereby permitted to be in class.

Classroom Expectations

- The expectations of this course are for you to put in at least 5+ hours of work/week outside of class, to complete this course successfully.

- You are expected to treat the faculty and each other respectfully. I will treat you with respect and fairness.

- You are expected to come to class on time, participate in class and stay the full class period (in our Zoom synchronous meetings).

- Please mute yourself when faculty is lecturing during Zoom. Only unmute when asking a question.

- Submitting assignments on time is expected of all students.

- All assignments must be submitted using Blackboard. *Emailed assignments will not be graded [*unless Blackboard is down and is not working; and the assignment is due that day/time].

- Students must verify that the correct assignment has been submitted by the due date. Blank copies and incorrect file format assignments turned in will automatically receive a zero grade.

- No make-up for tests and/or late submission of assignments accepted (beyond the 4-day window with point deduction), except for documented mitigating circumstances. Example of a mitigating circumstance is death in immediate family, or student's illness as verified by a physician.

- I will let you know what my assignment expectations are prior to work being assigned, and you are expected to turn in assignments on the due date as specified by me.

- I, in turn, will make sure to grade your assignment and give you feedback within 7 days of the due date.

- Your grade is NOT based on how hard you work but based on how you have mastered the material.