



CS 100 – Section 004

Instructors

Professor	Email	Office	Section (Meets face-to-face)
Ghada Abdelmoumin	gabdelmo	Blueridge Hall 129	004 (TR 9:00 - 10:15 am)

College of Engineering and Computing
George Mason University
Fall 2024



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Section 1: Course Basics

1.0 Course Information	
Course	CS 100
CRN	81737
Format	Lecture
Section	004
Semester	Fall 2024, Aug 26 – Dec 18
Date/Time	TR: 9:00 – 10:15
Location	Blueridge Hall 129

1.2 Instructor Information	
Name	Ghada Abdelmoumin
Email/Phone	gabdelmo@gmu.edu -- (703) 993 -1530
Office	ENGR 4439, Thru 11:00 AM – 1:00 PM
1.3 TA Information*	
Name	Senthurbavan Kirubaharan (GTA)
Email/Phone	skirubah@gmu.edu
Location	ENGR 4456, Wed 9:30 – 10:30 AM

* This course has two TA(s): A grad TA (GTA) and an undergrad TA (UTA)

1.4 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). *This course is part of the Mason Core curriculum and fulfills requirements for Information Technology and computing.*

1.5 Student Learning Outcomes (SLO)

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

1. Use technology to locate, access, evaluate, and use information, and appropriately cite resources from digital/electronic media.
2. 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. 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. Understand the essential issues related to information security, how to take precautions and use techniques and tools to defend against computer crimes.
5. Recognize the significance of the "big ideas" of computational thinking.

1.6 Mason Core Learning Outcomes (CLO)

1. Understand the principles of information storage, exchange, security, and privacy and be aware of related ethical issues.
2. Become critical consumers of digital information; they will be capable of selecting and evaluating appropriate, relevant, and trustworthy sources of information.
3. Use appropriate information and computing technologies to organize and analyze information and use it to guide decision-making.
4. Choose and apply appropriate algorithmic methods to solve a problem.

1.7 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

1.8 Course pre-requisites/Co-requisites

None.

1.9 Technical Competencies

Basic CANVAS knowledge is assumed.

1.10 Textbooks for the class (Both free)

- W. Daniel Hillis, *The Pattern on the Stone: The Simple Ideas that Make Computers Work*; (available free online from the GMU University Libraries <https://ebookcentral-proquest-com.mutex.gmu.edu/lib/GMU/detail.action?docID=1826311>). You have to login to GMU central Authentication System (CAS), for example CANVAS, to access the book when you are off campus.
- Wentworth, Elkner, Allen, and Meyers, *How to Think Like a Computer Scientist: Learning with Python 3*; (available free online at <https://openbookproject.net/thinkcs/python/english3e/>).
- Additional external online resources (EOR) to be added as the course progresses to supplement the listed textbooks.

1.11 Required Materials/Software/Hardware

Student will need access to:

For Class - -

- Computer on which they can access Internet sites and install programs
- Internet Connection
- CANVAS – For course material, assignments, and assignment submission
- [Piazza](#) – for Q&A, discussion, and the UTA contact information

For Assignments - -

- Microsoft Word or some form of Word Processor
- Python <https://www.python.org/>
- Geany <https://www.geany.org/>
- For Hosting Website on mason.gmu.edu/~NetID
- <https://its.gmu.edu/knowledge-base/how-to-set-up-a-personal-site/>
- <https://its.gmu.edu/knowledge-base/how-to-upload-files-with-filezilla/>
- VPN <https://its.gmu.edu/service/virtual-private-network-vpn/>

There are computer labs on campus which provide this capability (Limited).

1.12 Course Grading, Examination, & 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%)				

1.13 Grading Scheme

Assignments	Category	Points	Weight
Participation	14 Lessons Learned Entries on CANVAS	100	10%
Homework	8 Homework Assignments	400 (50 each)	40%
Mini Exams	3 Mini-Exams	300 (100 each)	30%
Final Exam	One Exam	200	20%
	Total	1000	100%

Section 2: Course Rules and Policies

2.0 Assignments and Exams

- You may not use any Internet resources or AI tools, such as ChatGPT and Copilot, to write a paper, an essay, or solve a computational problem unless otherwise specified.
- It is extremely prohibited to copy answers to assignments questions found on the Internet.
- Your Homework is due electronically (via CANVAS) 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.
- You may ask the UTA on Piazza if you need help to complete an assignment. You can ask to clarify an assignment requirement or understand a concept. You can send a private message (seen by professor and TA) or post public questions.
- For grade disputes, please contact the grader (the GTA for Homework, the instructor for Exams) 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 2 days. Thus, a Homework assignment submitted 1 day late which would have scored an 87% would instead receive a 77%. A Homework assignment 2 days late which would have scored an 87% will receive 67%, or a Homework assignment that would have received 45/50 (90%) would receive 35/50 (70%).
- An assignment which is more than 2 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 documented extenuating circumstances which affect your ability to complete an assignment or exam (you must contact the instructor PRIOR to the deadline of the assignment or exam).

2.1 Email Communication

- Students must use their Mason 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.
- Unless you have a confidential matter to discuss directly with the professor/TA, please do not email us directly -- use a Piazza post. HW help questions sent via email are of extremely low priority, as they were sent to the wrong place and will most likely be responded to with "please post on Piazza".
- Please give 48 hours for faculty to respond to email on weekdays. Emails sent on the weekend will be responded to on the following Monday/Tuesday.
- 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 class will result in a significant deduction of your participation grade.
- Activities and assignments in this course will regularly use the CANVAS learning system, available at <https://mymasonportal.gmu.edu/>. Students are required to have regular, reliable access to a computer with an

updated operating system 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.

- All course materials posted to CANVAS 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.
- 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.

2.2 Course Attempt Limits

- 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.

2.3 Additional Course Policies and 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.
- Submitting assignments on time is expected of all students.
- All assignments must be submitted using CANVAS. *Emailed assignments will not be graded [*unless CANVAS is down and is not working and the assignment is due that day/time; in which case please email the assignment to timestamp it].
- 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 missed exams and/or missed assignments accepted except for documented mitigating circumstances. Example of a mitigating circumstance is death in immediate family, or student’s illness as verified by a physician. In such a case, you must notify me within 24 hours of the deadline.
- 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.
- Your grade is NOT based on how hard you work but based on how you have mastered the material.
- There will be no make-up or extra-credit assignments at the end of the semester; your grade should be a measure of your semester-long progress.

Section 3: University Policies

3.0 Honor Code

- The [University Honor Code](#) is upheld and supported by the [Office for Academic Integrity](#). Mason is an Honor Code university; please see the Office for Academic Integrity for a full description of the code and the honor committee process.
- The principle of academic integrity is taken very seriously, and violations are treated gravely.
- What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else’s work in an aspect of the performance of that task, you will give full credit in the proper, accepted form.
- Another aspect of academic integrity is the free play of ideas.
- Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification. Here is a training module on the Honor Code if you’re interested: [student integrity training module](#).

3.1 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. You can update your chosen name and pronouns here: [change name and pronouns on Mason records](#).

3.2 Disability Services

- 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 <https://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.

3.3 Diversity and Inclusion

- 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>.

3.4 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).

3.5 Student Support Resources

- Student Support Resources on Campus: <https://stearnscenter.gmu.edu/knowledge-center/knowning-mason-students/student-support-resources-on-campus/>.
- ECE Peer Mentor Center: [Peer Mentor Center | College of Engineering and Computing \(gmu.edu\)](#)

3.6 Incomplete Grade

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

3.7 Campus Closure and Safe Return

- Campus Closure due to Weather: If the campus closes or class is canceled due to weather or other concern, students should check CANVAS for updates on how to continue learning and information about any changes to events or assignments.
- Safe Return to Campus Statement: All students taking courses with a face-to-face component are required to follow the university’s public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (<https://www2.gmu.edu/safe-return-campus>).

Section 4: Mental Health

- What is listed on the syllabus are our/Mason's usual course policies. However, this is not a "usual" time. We fully understand that each of us may face new obstacles, or old obstacles in novel ways, during this time. Please communicate with us if such things are getting in your way in this class. **Our goal is to facilitate your growth and success in this strange and uncertain time;** we can only do that if you tell us what is happening.
- If you are experiencing feelings of anxiety, panic, depression, sadness during the semester, Student Health Services and Counseling and Psychological Services Offices (703-993-2380) provides a range of resources to assist and support you.
- Students can call (703-993-2831) or walk-in during open hours to schedule an appointment to talk with a health care provider. If you or someone you know experiences a mental health crisis or emergency, seek help immediately. Call 911 for local emergency services, the National Suicide Prevention Lifeline (1-800-273-8255), or text the Crisis Text Line (741-741) anytime.
- We believe we learn best when we can show up as whole and healthy people. To learn effectively we need to have basic security: a roof over our head, a safe place to sleep, a stable place to live, and enough food to eat. If you are struggling to meet any of these basic needs, visit our campus food pantry (<https://ssac.gmu.edu/patriot-pantry/>), or reach out to other Mason resources <https://learningservices.gmu.edu/campus-resources/>. Remember, asking for assistance and advocating for yourself is an important part of your collegiate experience. **YOU** are not alone.

Section 5: The Seven Principles

- Please remember these seven principles ---
 - 1) Knowledge is a privilege that is earned through hard work, challenge, and discomfort.
 - 2) Learning isn't about satisfying requirements; it's about living a satisfying life.
 - 3) When you are struggling, it's your responsibility to ask for help.
 - 4) Failure is the bedrock of learning, embrace your failures as opportunities.
 - 5) No one has the same learning or test-taking style.
 - 6) Teachers develop policies that apply to everyone. There are penalties for breaking the rules just as there are in the world outside of school.
 - 7) Teachers can only facilitate learning; education is something we accomplish for ourselves throughout a lifetime."

Source: <https://www.rootsofaction.com/avoiding-academic-entitlement-helping-youth-develop-realistic-expectations-for-college/>