Department of Information Sciences and Technology
College of Engineering and Computing
George Mason University
4400 University Drive
Fairfax, VA 22030-4444

IT 104: Introduction to Computing

Course Syllabus

Spring 2024

Professor	Eugene Lord, Ph.D., PMP
Instructor Email Address	elord@gmu.edu
Office Hours & Location	Refer to the Office Hours tab on the left navigation bar
Graduate Teaching Assistant Name & Email	Akshay Golkonda; agolkond@gmu.edu Yashaswi Gurram; ygurram@gmu.edu
Blackboard Tech Support	Email: courses@gmu.edu Phone: 703 993 3141
KHPContent Support	https://gmu.khpcontent.com/eform/submit/support-form
Ebook Support	vitalsource@kendalhunt.com

Course Description

Introduction to Computing (3:1:2) This course, using both lecture and laboratory practice, introduces students to basic computer concepts in hardware, software, networking, computer security, programming, database, e-commerce, decision support systems, and current developments in 3-D printing, virtualization, and Siri-like systems. Additional lectures examine social, legal, and ethical issues, including privacy, intellectual property, health concerns, green computing, and accessibility. Students learn techniques to search, evaluate, validate, and cite information found online. Hands-on lab includes spreadsheets, databases, presentations, HTML 5, CSS, cybersecurity, blogs, wiki, and mobile app development.

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Prerequisites

Knowledge of high school algebra.

Mason Core Course

Information technology and computing can significantly augment humans' ability to produce, consume, process, and communicate information. Thus, students need to understand ways to use such technology to enhance their lives, careers, and society, while being mindful of challenges such as security, source reliability, automation, and ethical implications. These factors have made it essential for students to understand how to navigate the evolving technological landscape effectively. IT courses offered in the majors may focus on disciplinary applications and concerns of information technology.

IT courses meet the following learning outcomes:

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

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Objectives

After successful completion of the course, the students will be able to –

- Understand basic functions of computer hardware and software components, including operating system functions
- Identify various networks (LAN, WAN, intranet), topologies (ring, bus, star), protocols (TCP/IP, SMTP, POP & IMAP, HTTP & HTTPS, DNS), media types (wire pair, coaxial cable, fiber optics, microwave, radio frequency, infra-red), and network hardware (router, hub, gateway)
- Know how to use search techniques (inclusion, exclusion, wildcards, phrase, Boolean search), evaluate the information found on Web pages (chat rooms, newsgroups, RSS, podcasting sites, Wikipedia, blogs), and cite electronic and printed references
- Understand computer viruses, biometric devices, encryption techniques, digital signature, email filtering, firewall, and precautions on Web
- Understand ethical issues regarding copyright, software licenses, information privacy, intellectual property, content filtering, Spam, and laws enacted with regard to SPAM, children's protection on the Web, electronic communication, and electronic theft
- Understand IT impact on society (health and environment)
- Design and create web pages using HTML 5
- Create blogs and wikis
- Use different application programs like spreadsheet and database management systems
- Understand the fundamentals of system analysis, the life cycle of program development and programming languages, artificial intelligence, e-commerce, and cloud computing.

Credit by Examination

Students who think they already know the material in IT 104 should read the information on Credit by Examination posted on https://www.gmu.edu/admissions-aid/apply-now/how-apply/transfer/transfer-credit-policy website.

Textbooks

There are two required textbooks for the course.

1. Kendal/Hunt **Computers: Understanding Technology**, e-book. ISBN: 9798385108183. Available at https://he.kendallhunt.com/gmu_understanding_tech

2. Kendal/Hunt **Computer Concepts and Applications**, e-book. ISBN 9798385108176. Available at https://he.kendallhunt.com/product/computer-concepts-and-applications-0

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Grading

Grades will be awarded in accordance with the GMU Grading System for undergraduate students. See https://catalog.gmu.edu/policies/academic/grading/ under Grading System for more information.

The grading scale for this course is:

97 – 100%	A+	Passing
93 – 96%	A	Passing
90 – 92%	A-	Passing
87 – 89%	B+	Passing
83 – 86%	B	Passing
80 – 82%	B-	Passing
77 – 79%	C+	Passing
73 – 76%	C	Passing
70 – 72%	C-	*Passing**
60 – 69%	D	*Passing**
0 – 59%	F	Failing

** Grades of "C-" and "D" are considered passing grades for undergraduate courses. However, a minimum grade of "C" is required in the BSIT program for any course that is a prerequisite for one or more other courses. This course is a prerequisite for several courses in the BSIT program – see https://cec.gmu.edu/program/information-technology-bs for more information on those courses.* Raw scores may be adjusted by the Instructor to calculate final grades.

Final grades will be determined based on the following components:

Item	Points	Percent
Pretest	25	2.5%
Course discussions	50	5%
Quizzes	100	10%
Project Part I (Research Paper)	150	15%
Project Part II (Website)	150	15%
Labs	150	15%
Midterm and Final Exam Practice Tests	50	5%
Midterm Exam	150	15%
Final Exam	150	15%
Posttest	25	2.5%

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Total Points	1000	100%

Course Discussions

There will be ten required course discussions throughout the semester. Each discussion is worth 10 points. You are expected to put up your original post first and then respond to one other post with constructive feedback.

Project Part I and II

See the project page in the lecture Blackboard folder for details.

Quizzes

There will be twelve (12) quizzes, with the two (2) lowest grades being eliminated. Thus, only ten (10) in-class exercises count in the overall grade for the course. In-class quizzes are not announced and can be given in lecture class or lab, at the beginning of the class, middle, or towards the end. No makeups for any missed in-class quizzes for any reason.

Lab Schedule

Labs and their due dates are contained in the schedule.

Pretest and Posttest

Pretest and posttest are conducted in the lab. The pretest is at the beginning of the semester, and the posttest will be in the last week. You will receive 100% as long as you participate in both. These tests are for your Instructor to learn the areas we need to emphasize in the class.

Midterm and Final Practice Tests

Midterm and final practice tests are conducted using an assessment tool. You will be given five attempts to take each of these tests. The best of all your attempts will be considered for your grade. No makeups for missed practice tests for any reason.

Exams (midterm and final)

Midterm and final exams are closed book/notes and are conducted in person.

No makeups for missed exams for any reason.

Final grades will be posted to PatriotWeb, which is the only vehicle for students to obtain those grades. A student with a "hold" on his/her Patriot Web account will be unable to access final grades until the hold has been removed by the Registrar.

Extra Credit

You can earn up to 3% in extra credits by participating and getting 100% in the “Review and Assessment – Chapter Exam” in the ebook - Computers: Understanding Technology. Criteria –

1. *Chapters that qualify for extra credit are – 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13.*

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2. *Assessment must be completed the week the chapter is reviewed in the lecture class. Chapters are listed under Topics > Schedule at a Glance under Syllabus.*
3. *Each completed chapter exam will give you 0.25% extra credit.*
4. *You can attempt chapter exams as many times as you would want, but it has to be completed during the week it is discussed in the lecture class.*

Software

We will use several applications in the course that are already installed in computer labs. If you cannot attend labs, you are expected to download those applications to complete missed work. Please note that some course assignments are not compatible with Mac operating system. If you do not have Windows operating system installed, be sure you can log in and use Mason-provided Virtual Citrix Lab (https://its.gmu.edu/service/citrix-virtual-lab/). If you are unable to log in, please contact the ITS support center at 703 993 8870.

Discussion Board Conduct

The discussion board is one of the mediums we will use to communicate with our fellow students. In postings, students are expected to conduct themselves in a manner conducive to learning.

Please read the 10 core rules of netiquette. Any student who does not follow the 10 core rules of netiquettes and negatively impacts the opportunity for other students to learn will be warned – if disruptive communication continues, the student will be asked to leave the class.

Important Dates

The spring 2023 semester calendar is available on the Office of the University Registrar's website (https://registrar.gmu.edu/calendars/).

Religious Holidays

A list of religious holidays is available on the University Life Calendar page. Any student whose religious observance conflicts with a scheduled course activity must contact the Instructor **at least two weeks in advance** of the conflict date in order to make alternative arrangements.

Attendance Policy

Students are expected to attend each class, complete any required preparatory work, and participate actively in lectures, discussions, and exercises. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter.

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Students are expected to make prior arrangements with Instructor if they know in advance that they will miss any class and to consult with the Instructor as soon as possible if they miss any class without prior notice. Any student who expects to miss more than two class sessions is strongly advised to drop the course and take it in a later semester when he/she can attend every class.

Departmental policy requires students to take exams at the scheduled time and place unless there are truly compelling circumstances supported by appropriate documentation. Except in such circumstances, failure to attend a scheduled exam will result in a score of zero (0) for that exam, in accordance with Mason's policy on final exams. Students should not make travel plans or other discretionary arrangements that conflict with scheduled classes and/or exams. If the University is closed due to weather or other unforeseen conditions, final exams may be rescheduled – students are strongly advised not to make plans that would prevent them from attending exams that may be rescheduled during the entire exam period.

Classroom Conduct

Students are expected to conduct themselves in a manner conducive to learning, as directed by the Instructor. Any student who negatively impacts the opportunity for other students to learn will be warned – if disruptive behavior continues, the student will be asked to leave the classroom.

Communications

GMU email is the preferred method of communication.

Students must use their email accounts to receive important University information, including messages related to this class. Federal privacy law and GMU policy require that any communication with a student related in any way to a student's status be conducted using secure GMU systems.

Privacy

Instructors respect and protect the privacy of information related to individual students. Instructors will take every possible measure to protect the privacy of each student's submissions, scores, and grades.

Disability Accommodations

Any student with a disability of any kind is strongly encouraged to register with the Office of Disability Services (ODS) (703.993.2474) as soon as possible and take advantage of the services offered.

Accommodations for disabled students **must** be made in advance – ODS cannot assist students retroactively, and at least one week's notice is required for special accommodations related to

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exams. Any student who needs accommodation should contact the Instructor during the first week of the semester so that sufficient time is allowed to make arrangements.

Honor Code

All members of the Mason community are expected to uphold the principles of scholarly ethics. The GMU Honor System and Code will be strictly enforced in this course. Any use of the words or ideas of another person(s) without explicit attribution that clearly identifies the material used and its source in an appropriate manner is **plagiarism** and will not be tolerated. Blackboard's SafeAssign tool is used to detect plagiarism in any work submitted by students for this course.

For this course, the following requirements are specified:

All assessable work is to be prepared by the individual student unless the Instructor explicitly directs otherwise.

The individual student for this course must newly create all work for this semester. Any usage of work developed for another course or this course in a prior semester is strictly prohibited without prior approval from the Instructor.

Students may seek assistance with assigned work (and are encouraged to do so if they feel the need), **provided** the directions for the assigned work do not prohibit such assistance and assistance is acknowledged in the submitted work, clearly identifying the person(s) giving assistance and the nature of the assistance given.

Available Resources

VSE Peer Mentoring: Peer mentoring, https://cec.gmu.edu/academics/current-student-resources/peer-mentor-center
WRITING CENTER: Johnson Center room 227E; (703) 993-1200; http://writingcenter.gmu.edu
UNIVERSITY LIBRARIES "Ask a Librarian" http://library.gmu.edu/ask
COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS): (703) 993-2380; https://caps.gmu.edu/
INFOGUIDES: https://infoguides.gmu.edu/IST

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