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IT 104: Introduction to Computing

Spring 2024 Syllabus

Professor	Kent Zimmerman
Email	dzimmer2@gmu.edu primary contact method
Office Hours	By appointment
Office Location	Zoom
Lecture Hours	Lecture: Online; Lab: 2pm – 3:15pm on either M or W
Class Location	G401 (computer lab)
Syllabus Version	Draft

Course Description

Introduction to Computing (3:1:2). Using both lecture and laboratory practice, this course introduces you to basic computer concepts in hardware, software, networking, computer security, programming, databases, 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. You will learn techniques to search, evaluate, validate, and cite information found online. Your hands-on lab exercises include working with spreadsheets, databases, presentations, HTML 5, CSS, cybersecurity, blogs, wikis, and mobile app development.

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, you 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 you to understand how to effectively navigate the evolving

technological landscape. IT courses offered in the majors may focus on disciplinary applications and concerns of information technology.

Mason Core IT courses meet the following learning outcomes:

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

Objectives

After successful completion of the course, you should:

1. Understand basic functions of computer hardware and software components including operating system functions;
2. Be able to 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);
3. 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;
4. Understand computer viruses, biometric devices, encryption technique, digital signature, email filtering, firewall, and precautions on the Web;
5. Understand ethical issues regarding copyright, software licenses, information privacy, intellectual property, content filtering, Spam, and laws enacted with regards to SPAM, children's protection on Web, electronic communication, and electronic theft;
6. Understand IT's impact on society (health and environment);
7. Be able to design and create web pages using HTML5;
8. Know data visualization techniques;
9. Be able to read and write small programs using the Python programming language;
10. Know how to use different application programs like spreadsheet and database management systems; and

11. Understand the fundamentals of system analysis, programming languages, artificial intelligence, e-commerce, and the life cycle of program development.

Credit by Examination

You may be able to test out of IT 104 if you are knowledgeable in the areas listed above. Please read the information on Credit by Examination posted on https://ist.gmu.edu/academics/advising/course-credit-waivers-substitutions.

Textbooks

There are **two** required materials for the course, both from the Kendall Hunt publishing company. **Used books do not contain the required electronic code**.

1. ***Computers: Understanding Technology***, 1st Edition (Lecture)
   ISBN: 9798385108183
   Author: George Mason University
   Available at: https://he.kendallhunt.com/product/computers-understanding-technology-0
   Price: USD 94.50

2. ***Computer Concepts and Applications***, 1st Edition (Lab)
   ISBN: 9798385108176
   Author: George Mason University
   Available at: https://he.kendallhunt.com/product/computer-concepts-and-applications
   Price: USD 94.50

If you have an issue purchasing anything with your credit or debit card (especially for Korean bank cards), or any international shipping questions, **please contact the Kendall Hunt customer service team** and they will likely be able to assist you.

Grading

Grades will be awarded in accordance with the University's Grading System for undergraduate students. Please see AP.3.1 on https://catalog.gmu.edu/policies/academic/grading/ 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 BSIT program. See https://catalog.gmu.edu/colleges-schools/engineering-computing/school-computing/information-sciences-technology/information-technology-bs/#admissionspoliciestext for more information on those courses.

Raw scores may be adjusted by the instructor to calculate final grades.

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Grading Components

Final grades will be determined based on the following components:

Item	Points	Percent
Blackboard Discussion Posts	100	10%
Project Part I (Research Paper)	150	15%
Project Part II (Web site)	150	15%
Quizzes	100	10%
Lab Exercises and Homework Assignments	150	15%
Midterm Practice Test (conducted in lab)	25	2.5%
Final Practice Test (conducted in lab)	25	2.5%
Midterm Exam (conducted in lab)	150	15%
Final Exam (conducted in lab)	150	15%
Total Points	**1000**	**100%**

Note: You are responsible for checking the currency of your Blackboard grades. Grade discrepancies should be brought to your instructor's attention within one week of that grade's posting. In the case of the final exam, you must raise a grade discrepancy concern within 24 hours of that grade's posting.

Course Discussions

There will be multiple required course discussions throughout the semester. Please note that some discussions require you to make an original post and then respond to two other posts with constructive feedback.

Course Project, Parts I and II

There are two major projects in this course. The first project involves writing a basic research paper, while the second project involves creating a web site based on your research paper. Please see the respective project pages in Blackboard for more information.

Midterm and Final Practice Tests

Midterm and final practice tests are taken prior to the respective exam. You may take practice tests up to five times, and only your best score out of your attempts will be used.

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Exams

Exams will be held online at set times. Please check your email regularly for the most recent updates about the exams. Makeup exams are generally not permitted.

Final Grades

Your final grade will first be posted to your Blackboard page. You will have 24 hours from your grade's posting to raise any concerns. Else, your final grade will then be submitted to Patriot Web.

Important Dates

The University's semester calendar and final exam schedule are available on the Mason Korea web site at https://masonkorea.gmu.edu/academic-calendars.

Religious Holidays

A list of religious holidays is available at https://ulife.gmu.edu/religious-holiday-calendar/. If your religious observance conflicts with a scheduled course activity, please your instructor at least two weeks in advance of the conflict date to make alternative arrangements.

Diversity and Inclusivity

This course embodies the perspective that we all have differing views and ideas and we each deserve the opportunity to share our thoughts. Therefore, we will conduct our discussions with respect for those differences. For further information on the university's policy on diversity and inclusivity, please visit: https://diversity.gmu.edu/.

Attendance Policy

As a member of the academic community, you will be expected to contribute regardless of your proficiency with the subject matter. Participation will largely be determined in this online format by way of discussion board activity.

You are expected to make prior arrangements with the instructor if you know in advance that you will miss any assignments and to consult with the instructor as soon as possible if you miss an assignment without prior notice.

Departmental policy requires you 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 AP.3.10 on https://catalog.gmu.edu/policies/academic/grading/. You should not make travel plans or other discretionary arrangements that conflict with scheduled classes or exams. If the University is closed due to weather or other unforeseen conditions, final exams may be rescheduled—you are strongly advised to not make plans that would prevent you from attending exams that may be rescheduled during the entire exam period.

Conduct

You are expected to conduct yourself in a manner that is conducive to learning, as directed by the instructor. You may be warned by the instructor or referred to the Office of Student Conduct if you negatively impact the opportunity for other students to learn.

Communications

George Mason University's e-mail system is the official method of communication. You must use your MasonLIVE email account to receive important University information, including messages related to this course. Federal privacy law and George Mason University policy requires that any communication with you related in any way to your student status be conducted using secure George Mason University systems.

Privacy

The instructor respects and protects the privacy of information related to individual students. The instructor will take every possible measure to protect the privacy of your submissions, scores, and grades.

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Honor Code

You are required to adhere to the George Mason University Korea Honor Code as it relates to integrity regarding coursework and grades, including the following Honor Code pledge:

> *To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this Honor Code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.*

Additionally, the following requirements are set in this course:

1. All assessable work is to be prepared by you alone, unless the instructor explicitly directs otherwise.
2. All work must be newly created by you for this course for this semester.
   Any usage of work developed for another course, or for this course in a prior semester, is strictly prohibited without prior approval from the instructor.
3. You may seek assistance with assigned work (and are encouraged to do so if you feel the need), only if the directions for the assigned work do not prohibit such assistance and assistance is acknowledged in the submitted work (i.e., clearly identifying the person/s giving assistance and the nature of the assistance given).

The Honor Code can be found at https://masonkorea.gmu.edu/resources-and-services/cai/honor-code.

Disability Accommodations

If you have a disability and you need an academic accommodation, please contact the instructor as soon as you can. Accommodations for disabilities must be made in advance—you cannot be assisted retroactively, and at least one week's notice is required for special accommodations related to exams. Please contact your instructor if you need accommodations during the first week of the semester so that there is sufficient time to make arrangements.

Available Resources

1. Academic Resource Center: https://masonkorea.gmu.edu/resources-and-services/academic-resource-center
2. IT 104 InfoGuide: https://infoguides.gmu.edu/IST

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Course Schedule

Week	Reading/Topic	Lab Activity	Homework
2.19	• Course Introduction • Project Part 1: Research Paper Details • Library and Internet Research		• Discussion Board 1 (10 points)
2.26	• Chapter 1: Touring Our Digital World • Chapter 2: Sizing Up Computer and Device Hardware	• Information Literacy Activity (15 points)	• Discussion Board 2 (10 points) • Information Literacy Quiz (10 points)
3.4	• Chapter 3: Working with System Software and File Storage • Chapter 4: Using Applications to Tackle Tasks	• Excel Case Study Activity (30 points)	• Discussion Board 3 (10 points) • Hardware Quiz (10 points)
3.11	• Chapter 5: Plugging in to the Internet and All Its Resources	• Networking Activity (15 points)	• Discussion Board 4 (10 points) • Excel Quiz (10 points)
3.18	• Chapter 6: Networking and Communicating Between Devices	• Midterm Practice Exam (25 points)	• Project 1 (150 points) • Networking Quiz (10 points)
3.25	**Midterm Exam!** (150 points) Taken in your registered lab class.		
4.1	• HTML 5 • Project Part 2: Website Details	• HTML5 Case Study I Activity (15 points)	• Discussion Board 5 (10 points)
4.15	• Chapter 7: Taking Advantage of the Cloud: Teamwork, Apps, and Storage	• HTML5 Case Study II Activity (15 points)	• Discussion Board 6 (10 points) • HTML Quiz (10 points)
4.22	• Chapter 8: Purchasing, Maintaining, and Using Computing Devices	• Python Activity (15 points)	• Discussion Board 7 (10 points) • CSS/JavaScript Quiz (10 points)
4.29	• Chapter 9: Understanding your Role as a Digital Citizen: Security, Privacy, and Ethics	• Access Case Study Activity (20 points)	• Discussion Board 8 (10 points) • Python Quiz (10 points)
5.13	• Chapter 10: Leveraging Technology in Business	• Mobile Application Activity (5 points)	• Access Quiz (10 points)
5.20	• Chapter 11: Using Programming Concepts and Languages	• Cyber Security Activity (10 points)	• Discussion Board 9 (10 points) • Project 2 (150 points) • Cyber Security Quiz (10 points)
5.27	• Chapter 12: Changing Everything with Big Data	• Data Visualization Activity (10 points)	• Data Visualization Quiz (10 points)
6.3	• Chapter 13: Exploring Emerging Technologies	• Final Practice Exam (25 points)	• Discussion Board 10 (10 points)
6.10	**Final Exam!** (150 points) Monday lab class: 12:30pm – 3:15pm Wednesday lab class: 7:30pm – 10:15pm		