Course Information v01262020

Course Title: INST 346 (Sections 0102 and 106)
Course: Fall 2019 (Jan. 27th to May 12th, reading day 13th, final May 14-20)
Course Format: Online
Faculty: Dennis C. Frezzo, PhD
Contact Information: Canvas email function strongly preferred - backup is dfrezzo@umd.edu
Teaching Assistant (TA): Harmit Sampat, harmit@terpmail.umd.edu

Class time and location: Sections 0102 and 0106. No synchronous meeting times but weekly assignments are due (course is NOT self-paced). Please expect to start meeting weekly deadlines as the course begins, with penalties for late work.

Required Textbook(s)/Resources/Equipment:

- eBooks available through the library, links within ELMS, so book purchase NOT required; paperbacks are available on Amazon:
    - Learning Computer Architecture with Raspberry Pi by Eben Upton (ISBN-13: 978-1119183938). Primary reading for Weeks 1-5.
    - The Internet Book: Everything You Need to Know about Computer Networking and how the Internet works by Douglas Comer (ISBN-13: 978-1138330290). Primary reading for weeks 6-12.
    - Other references may be made available as eBooks as the semester progresses
- Laptop (or desktop) computer onto which you can install software, and with an Internet Connection to ELMS and other services for labs and activities:
    - Cisco Packet Tracer 7.3 software required (simulator for building model networks, free, but registration and short course required at Cisco Networking Academy)
    - Wireshark 3.2.1 software required (network traffic packet sniffing software, free)
    - Virtual Box 6.1.2 software required (virtualization software, free)
- Optional but highly recommended: Smartphone
- Completely optional but one way to get more out of the course: Raspberry Pi Single Board Computer Kit (details in ELMS)

Course Schedule and Documents: The course schedule, reading plan, assignment instructions and rubrics, research resources, and other helpful documents will be available in ELMS.

Office Hours: The professor will hold office hours remotely, by WebEx, by appointment, on Mondays and Fridays before noon Eastern. The TA will hold in-person office hours Wednesday, Thursday, and Friday 11 AM – noon Eastern. These hours are preliminary and any changes to these hours will be posted in ELMS.

Course Description and Objectives

Prerequisite: 1 course with a minimum grade of C- from (INST201, INST301); and 1 course with a minimum grade of C- from (INST326, CMSC131); and minimum grade of C- in INST327.

Restriction: Must be in Information Science program; and permission of INFO-College of Information Studies.

Credit only granted for: INST346 or BMGT405.

Course Description:
Examines the basic concepts of computer hardware, systems software, networking, client/server architectures, cloud computing, distributed systems, and high performance computing as applied to information rich domains. Technology and architectures will be discussed within the contexts of solving social issues, supporting science, and conducting business operations. Current computing topics such as web environments, IoT, security, management, and policy will also be reviewed.

Student Learning Outcomes:
Upon successful completion of the course, students will be able to:

- Articulate major hardware, software and networking concepts and components that comprise current digital information infrastructure;
- Deploy a virtual system as a part of cloud architecture in a client/server environment;
- Evaluate hardware, software, and network solutions for organizational needs;
- Identify emerging threats to information security and develop effective approaches to addressing those threats;
- Construct an infrastructure and architecture proposal to solve a real-world problem related to solving social issues, supporting science, or conducting business operations;
- Implement a distributed computing solution that can be applied to an IoT, big data or computationally demanding organizational problem.
- Analyze and create models of end-to-end causality in networked systems

Course Activities:

- Homework Assignments: to help students work through recorded lectures, web links, and online textbook reading, weekly “Study Activities” (not graded weekly, but points awarded twice in the semester based on effort) are provided. Actual “Homework submissions” (graded, due every week) will focus on key skills. More details in ELMS.
- Packet Tracer Models: These are a series of models you build in the simulator. More details in ELMS.
- Team or Solo project: Powerpoint deck, Packet Tracer simulation file, and Reflection, on a topic of your choice. More details in ELMS.
- Quizzes: Online quizzes will test your comprehension of course activities. More details in ELMS.
- Mid-term Exam: A take-home mid-term exam will be administered to test students’ understanding of course content and skills learned in the class. The exam will cover all material covered prior to the mid-term exam. More details in ELMS.
- Final Exam: A take-home final exam will be administered to test students’ understanding of the course content and skills studied in the entire course. The exam may contain conceptual questions as well as practical and applied questions. More details in ELMS.

Course Grades

Your grade is determined by your performance on the assessment components in the course. All assessment scores will be posted on Canvas. If you would like to discuss your grade, or have questions about how something was scored, please schedule a time with the course TA or with the instructor. Grade disputes must be turned in within one week of receiving the graded work. They must be submitted as a written document (via email to the TA and professor) in which you indicate the graded work, an explanation of what you believe was mis-graded, and an explanation for why you think it should be given a different score. For any re-grade request, the entire assignment will be regarded, and your score may go up or down.

Homework submissions, Packet Tracer models, discussions, and quizzes can earn full-credit if submitted by the deadline; up to half credit for a week after the deadline (unless otherwise noted). After one week after the deadline, no credit can be earned (unless otherwise noted). To avoid unexpected complications, complete and submit your work well in advance of the due dates and times. Please see ELMS for details about specific weeks' submission, the Midterm, the Final Project, and the Final Exam.

Scores on each component will be combined to produce a single overall score for each student as follows:

Component
Homework (includes submissions every week, and two Study Activities submissions, before the midterm and fin (lowest grade dropped)
Packet Tracer Models (.pkt) and/or Screen Shots of Results (.docx) (lowest grade dropped)
Online Discussions (lowest grade dropped)
Quizzes (lowest grade dropped)
Mid-term Exam
Final Project
Final Exam

Letter grades will be assigned using the following categories:

98-100	A+		87-89	B+		77-79	C+		67-69	D+	
93-97	A		83-86	B		73-76	C		63-66	D	
90-92	A-		80-82	B-		70-72	C-		60-62	D-	
									0-59	F	

Course Expectations and Procedures

1. **Exam Policy:** Exams will be take-home under the honor code. Since the dates of the take-home exams are already announced, you have considerable flexibility so plan ahead. There is no provision for making up an exam unless it conflicts with a religious holiday or coincides with a medical emergency (see policy #3 below). Such requests will be

granted at the sole discretion of the faculty member and in accordance with the policies of the iSchool and the University of Maryland.

2. **Late Work Policy:** Work should be submitted via Canvas on-time. For Homework, Packet Tracer Models, Quizzes, and Discussions, you may receive half-credit for the week after the due date (unless otherwise noted). One week after the due date, no credit may be earned (unless otherwise noted). There is no make-up of this work at the end of the semester (though your lowest grades in each category will be dropped). Exceptions are the midterm exam, final exam, and final project and reflection (please see ELMS for details). A broken computer, power outage, lost internet connection, or corrupt file is not a recognized reason for a waiver of this policy; the vast majority of personal reasons cited by students in the past were not granted. All requests for extensions will receive the same polite and non-negotiable response – "no." The only exception to this policy is documentable personal medical emergencies and religious holidays.

3. **Exceptions to Late Work Policy:** If a medical exception is to be granted to a student, the student must provide documentation (a doctor's note or letter stating the duration the student is excused from employment and school). Prescriptions, receipts, and treatment instructions are not considered adequate documentation. Documentation must be submitted via email to the professor within 7 days of the event to be considered. Arrangements for religious holidays should be submitted 7 days prior to the event so that appropriate planning can occur. Exceptions are not automatic and are at the sole discretion of the professor. Requests for exceptions or extensions should be made in writing and sent to the professor via Canvas email. All documentation should be attached to this email.

4. **Regular online participation** is expected of all students. Students are responsible for all announcements, material covered, and assignments due. The instructor recommends exchanging contact information with other students to support each other through the online course experience.

5. **Your laptop** (or desktop) computer will be the key portal to online class activities. In addition, the instructor will be pointing you to various free software to help you grow as a professional.

6. **Participation Policy:** Participation is determined by graded assignments

7. **Deliverable Format:** Unless otherwise specified in the assignment instructions, the following guidelines apply to all assignments. All work for this course should be submitted via the appropriate link in ELMS unless otherwise instructed in the assignment instructions. Work submitted via email (except by explicit instruction of the professor) will not be accepted. All deliverables (papers, projects, etc.) should adhere to APA guidelines. Assignments should be typed and submitted in a Microsoft Word docx file format unless otherwise specified in the instructions. Work should be size 12 Times New Roman font with single spacing (no before or after spacing) and margins of 1" on all

sides. Students who do not follow submission and format instructions may be subject to earning a lower grade.

The syllabus and course policies are subject to change based on the needs of the class with advance written notice provided to students via ELMS.

Emailing the Professor

Email correspondence is the primary method of communication in this course. The professor will make every effort to respond to student email within 24 hours of receipt during weekdays of standard 5-day work weeks. Emails that require further research or the response of another colleague or department may take longer. Emails received on weekends, holidays, or when the university is closed will receive a response on the second weekday after that the university is open.

Please use the Canvas email function for day-to-day activities. However, if there is something you prefer to send directly to my UMD email address, please note that Email must be sent to the professor using your UMD student email. The professor is unable to respond to emails send by students from their personal accounts – especially when corresponding regarding confidential, personally identifiable, or assessment data.

Professors receive many emails from students, colleagues, administrators, regional partner organizations, and research teams each day. To help me prioritize your emails and ensure a prompt reply, *Please adhere to the following guidelines when sending me an email (neglecting these guidelines may prolong a response).*

- Your subject line should include the course and section information and the topic of your email. Examples include:
    - INST 346; Response Requested: Interpreting Wireshark Captures
    - ISNT 346; Grade Fix Requested: My Quiz 1 grade is not correct
- Please proceed with an appropriate greeting:
    - Dear Dr. Frezzo
- Use the body to state your question, provide information, or otherwise communicate your message to me.
- Provide all relevant data and be specific.
- Conclude with any requests you are making clearly delineated.
- Close with a proper signature line.
    - Sincerely, Your Truly, Best Regards (and your name)
- Please use correct spelling and grammar. Professional written communication is an important skill. Abbreviations and “text-like” conventions (emoji, shorthand) is not appropriate for this communication medium.
- Proofread before you click send.

University Policies and Important Course Policies

University policies regarding cheating, plagiarism, student code of conduct, student attendance, course accessibility, and other topics pertinent to student rights and success are located on the website for the office of undergraduate studies:

http://www.ugst.umd.edu/courserelatedpolicies.html
All students should review this site and familiarize themselves with these policies.

All instances of academic dishonesty will be forwarded to the appropriate university officials and will result in a minimum action by the professor and university of a grade of zero on the assignment/exam.

Spring Semester 2020

First Day of Classes	January 27 (Monday)
Spring Break	March 15-22 (Sunday-Sunday)
Last Day of Classes	May 12 (Tuesday)
Reading Day	May 13 (Wednesday)
Final Exams	May 14-20 (Thursday-Wednesday)
Commencement - College/Department Ceremonies	May 20 (Wednesday)
Commencement - College/Department Ceremonies	May 21 (Thursday)
Commencement - Main Ceremony and College/Department Ceremonies	May 22 (Friday)