

Course Information

Course Number: INST 346 (sections 0104 & 0105)

Course Title: Technologies, Infrastructure, and Architecture

Term: Spring 2019

Course Format: On-campus

Faculty: Dr. Timothy M. Richards

Contact Information: timothy@umd.edu

Teaching Assistant (TA): Ankit Dhall (ankitd@terpmail.umd.edu)

AMPs (Academic Peer Mentor): TBA

Class time and location: Section 0104 – MWF 1:00-1:50PM SQH 1119
Section 0104 – MWF 8:00-8:50AM ATL 2428

Required Textbook(s)/Resources/Equipment:

- The Architecture of Computer Hardware, Systems Software, and Networking (5th Ed.) by Irv Englander (ISBN: 9781118322635)
- Laptop computer for in-class labs and exercises

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, TA, and academic peer mentors will hold weekly office hours. These hours and any changes to these hours will be posted in ELMS. [Dr. Richards office hours for the spring 2019 term are on Mondays from 9:00am-10:00am, 11:00am-12:00pm, & 2:00-3:00pm.](#) Due to the large number of students who will visit my office hours, I require students to make an appointment at least 24 hours prior to the requested time you would like to meet. This is to ensure that students can obtain the help they need and that I am available when you arrive. TA and AMP office hours and study sessions are implemented on a drop-in basis. Feel free to stop in for help at any one of the sessions 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;
- Collaborate with peers to implement a distributed computing solution that can be applied to a big data or computationally demanding organizational problem.

Course Activities:

- **Textbook Chapters:** It is expected that you will read and study assigned textbook chapters prior to class time. Class sessions will be interactive; please arrive in class on time and prepared to participate. You may have your laptops open during class sessions but only for class activities such as note-taking, referencing an e-copy of the book, or running class exercises.
- **Quizzes:** In-class quizzes will test your comprehension of readings and lectures. They will cover the readings and/or the lectures. In-class quizzes will require being physically in the classroom at the time of the quiz.
- **Lab Exercises and In-class Activities:** There will be many in-class lab exercises activities that you will complete in this class.
- **Homework Assignments:** Homework will be assigned throughout the semester. This work should be completed and submitted via Canvas by the due date. Careful attention should be given to the instructions for each assignment. Some of the homework will be individual work and some of the work will be team-based. **Read all instructions for all assignments carefully.**
- **Mid-term Exam:** An in-class 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.

- Final Exam: An in-class 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.

Course Grades

Grading 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. Grade disputes must be turned in within *four days* of the work/grades being made available to the class. 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.

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

Component	Percentage
Quizzes	10%
Participation (clickers & class decorum and engagement)	10%
Lab exercises and In-class Assignments	20%
Homework Assignments	15%
Team Project	15%
Mid-term Exam	15%
Final Exam	15%

Letter grades will be assigned using the following categories:

98-100	A+		87-89.99	B+		77-79.99	C+		67-69.99	D+
93-97.99	A		83-86.99	B		73-76.99	C		63-66.99	D-
90-92.99	A-		80-82.99	B-		70-72.99	C-		60-62.99	D-
									0-59.99	F

Course Expectations and Procedures

1. **Exam Policy:** Exams will be proctored by the professor. 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:** No work should be submitted late in this course. (A broken computer, power outage, lost internet connection, or corrupt file is not a recognized reason for a waiver of this policy.) All work should be submitted by the due date. However, work may be submitted up to 48 hours late for an automatic 20% reduction of score. All requests for extensions will receive the same polite and non-negotiable response – “no.” All students will be afforded the opportunity to make up one quiz per term with no questions asked. Other missed quizzes will receive a grade of zero. Participation for in-class activities and clicker questions/polls can not be made up. The only exception to this policy is documentable 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 4 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 email. All documentation should be attached to this email.
4. Regular punctual attendance is expected of all students. Students are expected to remain for the entire class period. Students are responsible for all announcements, material covered, and assignments due when absent from class. The instructor recommends exchanging contact information with other students to share lecture notes. Tardiness and repeated class interruptions may reduce the student’s participation grade.
5. **Students are expected to read the all chapter assignments before coming to class and be prepared to discuss the topics and participate in class/group activities and exercises in class.**
6. Please bring your laptop to every class as we will use it in most class sessions. Students may use their device to take notes, use an e-book, or work on in-class activities assigned by the professor. Please note, however, that the use of mobile devices (i.e. phones, tablets, etc) for non-course related activities is disruptive and disrespectful to your peers and the teaching team. Texting, using email, playing games, chatting and browsing the web is not permitted during the class session unless doing so is a part of the class session’s planned activities and students are instructed to do so by the faculty. Failing to follow this expectation may result in a reduced participation grade.
7. **Participation Policy:** Participation grades involve engaging effectively with in-class exercises, participating in group work, interacting with your instructor and peers, scores on the clicker questions during lectures, and attending class regularly.

8. **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, discussion boards, 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 double 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 grade of zero.

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.

Contacting the Professor and TA

Email correspondence is the primary method of communication in this course. Students are encouraged to first reach out to the TA via email with course related questions (feel free to cc in the professor). The TA and the professor will make every effort to respond to student email within 48 hours of receipt during weekdays. 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 next weekday that the university is open.

Email must be sent to the professor and TA 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, I use filters on my inbox. 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 327; Response Requested: What is a ERD?
 - ISNT 346; Grade Fix Requested: My Quiz 1 grade is not correct
- Please proceed with an appropriate greeting:
 - Dear Dr. Richards / Dear Professor
- 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.
- Proof 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.