Syllabus

Instructors	Mike McCarthy	Joe Mertz	Marty Barrett
	mm6+@andrew.cmu.edu (mailto:mm6+@andrew.cmu.edu) Office: Hamburg Hall 3015 Phone: (412) 268-4657 Zoom: **chatwithmm62020 (https://cmu.zoom.us /my/chatwithmm62020)** Zoom password: speaktomm6 Office Hours: TR 1:00pm - 3:00pm **Home Page (http://www.andrew.cmu.edu /user/mm6/)**	**JoeMertz@cmu.edu (mailto:JoeMertz@cmu.edu)** Office: Hamburg Hall 3028 Phone: (412) 268-2540 Zoom: **joemertz (https://cmu.zoom.us /my/joemertz)** **Office Hours (http://josephmertz.com /officehours/)** **Home Page (http://josephmertz.com/)**	**martinba@cmu.edu (mailto:martinba@cmu.edu)** Office: Hamburg Hall 3040 Phone: (412) 268-3567 Zoom: **martybarrett (https://cmu.zoom.us /my/martybarrett)** Office Hours: T Th 10-12 Zoom: 924 3777 0612 Passcode: 15232 T 3:30-4:30 Zoom: 981 7719 8797 Passcode: 15232
Lectures	Section A: Mondays 01:30PM - 02:50PM - Remote Only Section B: Mondays 03:20PM - 04:40PM - Remote Only		

	Labs for each section are held on Wednesday during these same times. You will be assigned a subsection (1, 2, etc) within your lab time. See below for details.
Lecture and Lab Recordings	Classes and lab introductions will be recorded via Zoom so that students in this course (and only students in this course) can watch or re-watch past sessions. Please note that breakout rooms will not be recorded. These recordings will be available on Canvas as soon as possible after each session. Please note that you are not allowed to share these recordings. This is to protect your FERPA rights and those of your fellow students.
Grading Scale	97.5 - 100 A+ 92.5 - 97.4 A 90.0 - 92.4 A- 87.5 - 89.9 B+ 82.5 - 87.4 B 80.0 - 82.4 B- 77.5 - 79.9 C+ 72.5 - 77.4 C 70.0 - 72.4 C- 00.0 - 69.9 R
Assignment Weights	36% - Six programming projects equally weighted (6% per project) 12% - Twelve Labs (checkpoint and completion) 36% - 12 Pre- and Post-Class Quizzes 16% - Final Exam
Project	- You have 7 *grace* days you can use to turn in projects late with no penalty. - This policy is meant to cover such issues as job interviews, travel and so on.

Assignments and Late Assignments	• Any portion of a day late (e.g. 1 second) counts as one grace day used. • TAs will keep track of your late days, and after 7, a penalty of 10% per day late will be applied. • You should not contact the instructors nor TAs when you use your one late allowance; it will be automatically applied. • **A second late is late.** Plan ahead so that you are not trying to submit with 10 seconds to go, and find that the Canvas server clock is 11 seconds ahead of your laptop clock.
Labs	• Each student must be registered for (and is expected to regularly attend) a lab. • Labs are primarily hands-on activities, where assistance from fellow students and a TA is available. • You are allowed to help other students and get help from other students on labs (and labs only). • For attending your registered lab and making it to the defined *checkpoint* before the end of the lab session you receive 0.25%. • Lab attendance and checkpoint may be verified only by the TA running your assigned lab session. • When completing the lab before the due date (typically the following Monday at 1:30pm) you receive 0.75%. • Completed lab work may be shown to any DS TA during his or her office hours. • Late labs receive **zero** credit. There are no exceptions to this policy.
Weekly Quizzes	For each Monday class, there will be: • **Pre-class material to read or watch** • **A pre-class quiz** This short quiz will be available *only* from 1:30pm Sunday until 1:30pm Monday Pittsburgh time. No credit will be given for the quiz outside this timeframe. There will be 13 quizzes, and the lowest-scored quiz will be dropped and 12 will be counted in your final grade. Each pre-class quiz is worth 0.5% • **A class meeting that you are encouraged to attend** One class meeting will be recorded and available for later viewing.

- **A post-class quiz**
  This quiz will be available *only* from 4:40pm Monday until 11:59pm Tuesday Pittsburgh time. No credit will be given for the quiz outside of this timeframe. There will be 14 quizzes, and the lowest two scored quizzes will be dropped and 12 will be counted in your final grade. Each post-class quiz is worth 2.5%

Note: The quizzes are meant to sample what you have learned, but do not cover all the material in each class. You are responsible for the full content of the pre-class and in-class material on the final exam.

Policy on collaboration and cheating	Collaboration is not permitted in this class. Cheating will be treated very seriously. The following are OK: • Discussing the requirements of the project as long as no code is discussed • Discussing general approaches to solving the project as long as no code is discussed • Finding code samples from the textbook and class handouts. The following are considered cheating: • Discussing code • Showing anyone your code • Looking at anyone else's code • Having anyone else produce code for you • Having anyone else correct your code for you Any code copied from another source must be clearly cited. Provide as a comment in the code the exact URL where the code was copied from. Of course, if you have violated the spirit of the project, you will earn 0 points. If the copied code is not cited then that is an academic violation.

A student who shares code with another student will be treated the same as the person who does the copying. Keep your own code safe.

The maximum penalty for the **first** instance of cheating, whether on a quiz, exam, or homework project, may result in a failing grade for the course and possible expulsion from the program.

In addition to any penalties imposed by the instructor, including failing the course, all cheating and plagiarism infractions will be reported in writing to the Associate Dean for the program, the Associate Dean of Faculty, the Dean of Student Affairs, and the Dean. They will review and determine if expulsion should be recommended. The report will become part of the student's permanent record.

The appropriate people to refer to for help in homework projects are the TAs and the instructors. They can look at your code and help you with it. See them during office hours.

Communication Guidelines	**Given that**: • There are very many students in 95-702, so dealing with lots of individual email doesn't scale. • Other students often have the same questions you do • There are TA and instructor office hours **Regarding Class Absences:** • Don't send us email, we don't need to know. • You are responsible for the content. • Watch the recorded version of the class. • Come to office hours if you have residual questions. • Don't come and ask: "what went on in class?" **Regarding Questions about Class Topics:** • Ask in class. !!!

- Use Piazza to post your question.
- Come to office hours if you have followup questions.

Regarding Homework Project Questions:

- Ask in class. !!!
- Use Piazza to post questions
- Go to TA office hours.
- Go to faculty office hours if the TAs have not been able to help.

Regarding Late Homework Project Submission:

- Read the policy on late submissions
  - With so many students, they cannot change.
- Do not email instructors nor TAs that your project will be late.
- If your assignment is late (even one minute late) the TAs will apply the late allowance. Future late assignments will lose 10% per any part of a day.
- Plan ahead.

Regarding What is On the Final Exam:

- Assume anything discussed in class or in lab or assigned as readings might be on the final exam.
- Ask specific questions about this material in class.
- Come to faculty office hours if you have specific questions
- Don't ask "What is on the final exam?"
- Don't ask "Will X be on the final exam?"

Regarding Grading Complaints:

- See "Policy on complaints about grading" below

If you have a serious personal problem that impacts your ability to proceed normally thorough the course, please don't hesitate to email or see the instructors. Those we certainly do want to

	hear about and are happy to help you with!

Role of TAs	We hope and intend that the TAs will provide you with valuable assistance.
	
	• TAs should:
	   ○ Be present for lab sessions and office hours.
	   ○ Mark when you have achieved the lab checkpoint.
	   ○ Mark your lab work as complete.
	   ○ Be helping students during labs and office hours, not doing their own work.
	   ○ Help you understand the project assignments and class topics
	   ○ Help you with general questions concerning your project assignment code.
	   ○ Help you go over what your code should or should not be doing.
	   ○ Grade your projects within a week of submission
	• TAs should not:
	   ○ Find your code bugs.
	   ○ Fix your code for you.
	   ○ Show you their version of the code.
	• TAs are also very busy students, and cannot reply to your questions by email, chat, phone, Facebook, Twitter, SMS, smoke signal, or telepathy.
	   ○ Except if they invite you to contact them.
	   ○ Don't abuse the offer.
	• If you have complements or problems with the TAs assistance:
	   ○ The instructors **definitely** want to know about it.
	   ○ Please tell us about it before or after class, or during office hours.
	   ○ Please do not send it in email, unless instructed by us.

Conflicts with the Final Exam	- Exams take precedence over job interviews and trips. - No allowances or rescheduling will be given for missing the final exam because of a job interview, job trip, marriage, or good air fares.
Policy on complaints about grading	- TAs need to make distinctions between excellent, good, and bad work. - Grading mistakes may occur. - Please contact the TA who graded your assignment about grading mistakes. - It will be up to the TA to handle the complaint. - If you are still not satisfied with the TA's grade please contact your instructor. - Our initial reaction will be to support the TA's grade. - In some cases, however, we might agree with the student and ask for the grade to be adjusted. - Please make any grading concerns known to the TA immediately (within 1 week). - Set up an appointment with the TA and get the matter resolved.
Project Grading	- A TA will normally be assigned to grade the projects. - Given the number of students in the course, we will sometimes use the common practice of selecting some sections of a code or project reflections and grading that carefully and assigning the assignment grade based on that segment(s).

Required Textbook	Distributed Systems Concepts and Design Coulouris, Dollimore and Kindberg Fifth Edition ISBN-10: 0132143011 ISBN-13: 978-0132143011 NOTE: The new **Fifth Edition** is required. It is updated and much improved over the Fourth Edition. And it has content that the earlier edition does not have.
Learning Objectives	- Describe the non-functional characteristics of distributed applications and differentiate between different types of middleware systems. - Design, implement, and deploy distributed systems using the prevalent models of web applications, web services, remote objects, and asynchronous messaging. - Understand the function and interplay of network protocols from ARP to application protocols that enable distributed systems on the Internet. - Demonstrate the technical ability to code solutions with core networking protocols. - Program solutions to run on all ranges of devices, including mobile, desktop, and cloud-based servers. - Understand the Network File System (NFS), the Andrew File System (AFS), and the Hadoop Distributed File System (HDFS) - Understand the challenge of time in a distributed system, and implement a means of assessing a distributed system's state. - Understand transactions and implement a two phase commit protocol. - Describe the difference and similarities between symmetric key and asymmetric key cryptography. - Describe the reasoning behind each step of several cryptographic protocols including variations on Kerberos and SSL. - Demonstrate deploying containers to cloud infrastructure

	• Understand the problem of distributed consensus and design solutions
Accommodations	If you have a disability and have an accommodations letter from the Disability Resources office, we encourage you to discuss your accommodations and needs with either instructor as early in the semester as possible. We will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, we encourage you to contact them at **access@andrew.cmu.edu (mailto:access@andrew.cmu.edu)** .
A Diverse, Equitable, and Inclusive Course Community	We must treat every individual with respect.

We are diverse in many ways, and this diversity is fundamental to building and maintaining an equitable and inclusive campus community. Diversity can refer to multiple ways that we identify ourselves, including but not limited to race, color, national origin, language, sex, disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Each of these diverse identities, along with many others not mentioned here, shape the perspectives our students, faculty, and staff bring to our campus. We, at CMU, will work to promote diversity, equity and inclusion not only because diversity fuels excellence and innovation, but because we want to pursue justice. We acknowledge our imperfections while we also fully commit to the work, inside and outside of our classrooms, of building and sustaining a campus community that increasingly embraces these core values.

Each of us is responsible for creating a safer, more inclusive environment. Unfortunately, incidents of bias or discrimination do occur, whether intentional or unintentional. They contribute to creating an unwelcoming environment for individuals and groups at the university. Therefore, the university encourages anyone who experiences or observes unfair or hostile treatment on the basis of identity to speak out for justice and support, within the moment of the incident or after the incident has passed. Anyone can share these experiences using the following resources: |

- Center for Student Diversity and Inclusion:
  csdi@andrew.cmu.edu (mailto:csdi@andrew.cmu.edu) , (412) 268-2150
- Report-It online anonymous reporting platform:
  www.reportit.net (www.reportit.net) username: tartans password: plaid

All reports will be documented and deliberated to determine if there should be any following actions. Regardless of incident type, the university will use all shared experiences to transform our campus climate to be more equitable and just.

Take care of yourself	Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding recreational drugs and excessive alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.
	
	All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Ask for support sooner rather than waiting.
	
	If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. **Counseling and Psychological Services (CaPS) (http://www.cmu.edu/counseling/)** is available to help: visit their **website (http://www.cmu.edu/counseling/)** or call 412-268-2922. Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.
	
	If you or someone you know is feeling suicidal or in danger of self-harm, call someone immediately, day or night:
	
	    CaPS: 412-268-2922
	    Re:solve Crisis Network: 888-796-8226
	
	    If the situation is life threatening, call the police:

On campus: CMU Police: 412-268-2323
Off campus: 911