

EN.601.414/614

Computer Networks

Midterm Recap

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Fall 2020 (TuTh 1:30-2:45pm on Zoom)



<https://github.com/xinjin/course-net>

Midterm

- **Check your grades on Gradescope**

- Some statistics: average 92.94, median 94.5, **highest grade 100 (congratulations!)**
- Talk to me during my office hours if you do not do well

Midterm Survey

- **Complete the midterm survey**
 - It is also available throughout the semester
 - It is anonymous. A private channel to talk to me.
 - Your comments, concerns and questions are **very welcome**

Midterm Survey Summary

- **Lectures**

- Ask questions if you feel I am going too fast
 - Don't be shy 😊. If you do not understand, many of your classmates do not understand it, either.
 - Will try to slow down
- Interaction: will draw more pictures on slides to explain concepts and try to have more interaction with small Q&A

Midterm Survey Summary

- **Lectures**

- Lab and exercises: some exercise questions embedded in slides and discussed during lectures
- Notes in PowerPoint contain pointers and answers
- Slides update
 - Will update both PPT and PDF slides before class
 - Check again after class for new changes

Midterm Survey Summary

- **Group discussion**

- Purpose

- Improve the understanding of the materials
 - Make you feel “involved” like in-person lectures

- Problem: Some students mute themselves and never speak, maybe because

- They are shy
 - They need time to process the materials and think
 - Or they do not pay attention to the lecture...

Midterm Survey Summary

- **Group discussion**

- How to fix it

- Smaller groups with 2-3 students. Feel less shy and nervous with fewer people. Easier to ask and discuss questions.
 - Turn on your audio and video. Do not mute.

- Post summary on Piazza

- May not have time to go through each group in class
 - A way to make you effectively use the time for group discussion

Midterm Survey Summary

- **Advanced topics**

- Will cover all of them, but only briefly because of time: programmable networks, software-defined networking, big network data processing, cloud computing and network virtualization, bitcoin and blockchain, AI & networks, security issues

Recap: Assignment 2

- **Primary goal: understand reliable transport**
 - You do not FULLY understand it without implementing it by yourself
- **Secondary goal: it is a lesson for you to learn**
 - Protocol design and implementation
 - Understand the gap between theory and practice
 - This is why the course is a “systems” course
 - Teamwork
 - You and your teammates are on the same boat!
 - Start early, and check progress regularly
 - Software testing
 - You are responsible for the software you write
 - Make sure it passes basic test cases
 - Use the test script of assignment 1 as your start

Midterm Survey Summary

- **Assignment**

- Content: useful and practical

- Reliable transport is used everywhere, and is critical to many applications, e.g., messages, web, remote control, etc.

- Difficulty

- Some students find it too easy, while others find too difficult
 - Assignment 1 is just a warm-up. Assignment 2 and 3 are the most important. Assignment 4 will be “easier” as it is towards the end of the semester.
 - Tedious things like handling input/output and multi-threading are an integral part of making it work in the real-world
 - Tons of lines of code at Google to make Page-Rank work and build a fast, scalable and reliable search engine
 - We use Python and provide some scaffolding code to abstract away most of the low-level tedious work
 - It is in C, and there is no scaffolding code at some other schools.

Midterm Survey Summary

- **Assignment**

- Better spread out the assignments across time
- Improve the clarity of the instructions
- Provide more hints, instructions, examples
- Provide test tools and test scripts

Midterm Survey Summary

- **So, in assignment 3...**

- We provide more scaffolding code and the test script (which is the same used for grading)
- But do try to write the code from scratch, and write your own test script if possible. It is a good learning experience for **your own benefit**.
 - You can also try other languages (C/C++/Java/Go) yourself and build your own test environments
- Our goal is not to give you a hard time and make you feel bad. We hope you **learn something useful** besides getting A+ (😊) from this course.
- Finish both distance-vector and link-state protocols to get **bonus points**

Midterm Survey Summary

- **Piazza and office hours**

- Time:

- The office hours are set to meet the needs of different zones
 - If you need extra office hours (e.g., before assignment deadlines), post private questions on piazza or send emails to us to request for them. We are here to help!

- Summary of frequently-asked questions for assignments will be pinned on top on Piazza and updated regularly, based on discussions on Piazza and during office hours

- More personal questions: come to office hours, send emails to me, and use the anonymous Midterm survey

Midterm Survey Summary

- **Others**

- Bonus points are available for assignment 3 and 4.

- Final exam:

- The same style and format as midterm. Will allow you to pick a time frame from several days to finish.
 - The purpose of the exam is to help you find out what you have learned and what you are missing. It is not meant to give you a hard time and create a competitive environment between you and your classmates (at least for this class).
 - Focus on materials after midterm. Materials before midterm will be tested, but not a focus

- Thank you for taking time to complete the survey and provide feedback to us!

This is IMPORTANT

- **Now you have your points on two assignments and the midterm exam.**
 - Calculate your total points so far
 - Estimate what you will get in the other two assignments and final
 - Then you have a rough idea of your final grade
- **Come to my office hours to chat if you are worried**
 - Especially if I have contacted you. Don't be nervous. I'm going to help, not to blame 😊.
- **If you are not doing well so far, it is not the end of the world, yet**
 - Participation (20%): try to attend all remaining lectures
 - Two assignments (20%+4%): try to pass the test scripts and get the bonus points
 - Final exam (20%): prepare well, and come to office hours if you are not sure about some course materials

Thanks!
Q&A