Preliminaries

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Agenda

- Roadmap
- Syllabus
- Academic integrity
- Homework expectations
- Wrap-up
Course Roadmap

463

- Introduction (ch1)
- Application layer (ch2)
- Transport layer (ch3)
- Network layer (ch4)
- Data-link layer (ch5)

- Network concepts
- Web crawler (hw1)
- HTTP, FTP, SMTP/POP3, P2P
- DNS (hw2)
- Switching
- Routing (hw4)
- CSMA/Ethernet
- UDP
- TCP (hw3)
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Syllabus

• Instructor: Dmitri Loguinov, WF 3-4pm in 209 PETR
• TA: Arif Arman, TR 12-1pm in 211 PETR
• Main text:
• Homework submissions & grades
  – http://canvas.tamu.edu
• Slides, supporting material, and future test dates
  – http://irl.cse.tamu.edu/courses/463
• Discussion forum
  – http://piazza.com/tamu/spring2024/csce463
Syllabus 2

• Must use Visual Studio 2022 + default SDK
  - When installing, only need “Desktop Development with C++” in the set of options
  - Can use Microsoft APIs or C++11 threads/synchronization

• Prerequisites:
  - Competent C/C++ and debugging skills
  - CSCE 313: Computer Systems
    • Multi-threading and synchronization
  - CSCE 221: Data Structures and Algorithms
    • Queues, sets, hash tables, trees

• Expect heavy coding & debugging
Syllabus 3

- Homework (40% of final grade):
  - 4 programming assignments
  - Each explores a different aspect of computer networks

- Exams (60% of final grade):
  - Closed-book, no cheat-sheets
  - 6 quizzes (15% of final grade):
    - Problems from each chapter
  - 6 midterms (45% of final grade):
    - Lecture/homework topics
Syllabus 4

- Grade distribution
  - 90-100% (A), 80-89% (B), 70-79% (C), 60-69% (D), 0-59% (F)
- You cannot pass the class without doing homework
- **Student type A**: emails for every simple issue
  - How to create a project, start a program, linker errors
  - Instructor ends up googling and sending results back
- **Student type B**: never asks for help
  - Spends hours or days being stuck on the same problem
- Best route lies somewhere in between
  - Others might have experienced similar problems, asked about them on stackoverflow
  - Perform initial investigation, obtain insight into the issue
Syllabus 5

• If problem still unsolved, ask for help
  − Through piazza (general concepts) or email (code-specific)
  − During class, office hours

• Piazza
  − If you can, help others with their questions

• If emailing
  − Provide a clear description of the problem, where it occurs, and what you have done to debug it

• Read my tutorial on pointers, debugging, APIs
  − http://irl.cs.tamu.edu/courses/463/systems%20notes.pdf
  − Call stack, breakpoints, immediate/watch/thread window, common debugging techniques, stepping thru code
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Academic Integrity

• No teamwork, no external help
  – All submissions must be 100% original and yours

• Student rules 20.1.2.3.5 Plagiarism
  – The appropriation of another person's ideas, processes, results, or words without giving appropriate credit

• Student rules 20.1.2.3.1 Cheating:
  – Intentionally using or attempting to use unauthorized materials, information, notes, study aids or other devices or materials in any academic exercise. Unauthorized materials may include anything or anyone that gives a student assistance and has not been specifically approved in advance by the instructor

• All parties involved in misconduct penalized equally
  – F* in the class or expulsion from university

Exceptions: class sample code, API documentation, interaction with TA/instructor
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Homework

• Homework:
  - Due at 10am, 20% penalty per day (no points after 5 days)
  - Delays for personal reasons must be requested in advance

• What to submit
  - Add a comment to the top of each cpp/h file with your full name, class, and semester
  - Create a zip containing only *.sln, *.cpp, *.h, *.vc*proj*, delete everything else (especially the hidden directory .vs)
  - Preserve the original directory structure inside the zip
  - Upload to canvas.tamu.edu
  - Submitted code should compile as is, release & debug
Homework 2

• Windows machines for this class
  – You can use your laptop/desktop for most tasks
  – But on some of the benchmarks, Suddenlink and dorms are likely to block your connections

• Alternatives
  – Use Azure for students ($100 credit per year)
  – Visit https://azure.microsoft.com/en-us/free/students/
  – Allows you to spin up a virtual machine (Server 2019-2022) in the cloud, run your code over Remote Desktop

• Department Windows servers (need TAMU VPN)
  – ts.cse.tamu.edu and ts2.cse.tamu.edu
  – Use Remote Desktop to access them (username AUTH\tamuID)
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Wrap-up

- Homework #1 is due in three parts:
  - Part 1 (1/24): load a single page
  - Part 2 (1/31): crawl a list of pages with one thread
  - Part 3 (2/14): multi-threaded crawler & report

- **Suggestions before next class:**
  - Read my programming tutorial and hw1p1
  - Formulate questions about them, ask me next time
  - Experiment with VS 2022