

CSCI 234

Design of Internet Protocols

George Blankenship
Saturday 9:30 – 12:00
Virginia Campus

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George Blankenship

- Academics
 - BS Georgetown university (mathematics)
 - MS Marymount (computer science)
 - DSC candidate at GWU (computer science)
- 30+ years in computer industry
 - Protocol design
 - TCP/IP implementation manager
 - Distributed system project manager
 - Systems programmer and consultant

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Pertinent Information

- Office hours: by arrangement
- Telephone:
 - (301) 734-0227 (office)
 - (703) 622-2315 (cell)
- Email: BlankenG@GWU.edu
- Web site: <http://GWU.GBlankenship.us>

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Class Web Page

- <http://GWU.GBlankenship.us>
- Syllabus
- Lecture notes
- Homework assignments
- Supplementary materials

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Lecture Format

- Questions from previous class
- Discussion of previous homework
- New lecture material
- Homework assignment discussion

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Objective of Course

- Understanding of the issues in protocol design, implementation and analysis
- Introduction to automated software tool (SPIN) and language (PROMELA) for specification and analysis
- Understanding of the formal terms for protocol and graphical representations of protocol

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Course Outline

- Five sections
 - Introduction (one lecture)
 - Fundamental concepts (five lectures)
 - Formal methods (four lectures)
 - Wireless networking (one lectures)
- Homework and programming projects
- Mid-term exam
- Research project
- Final exam

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Lectures

| <u>Date</u> | <u>Subject</u> |
|-------------|---------------------------------|
| 8/23 | Introduction |
| 9/6 | Error/Flow Control |
| 9/13 | State Machine |
| 9/20-9/27 | Concurrency |
| 10/4 | Database Recovery |
| 10/11 | Protocol Testing |
| 10/18-10/25 | PROMELA and SPIN |
| 11/1 | (Validation examples) |
| 11/8 | (midterm) |
| 11/15 | (preparation for presentations) |
| 11/22 | HL7 protocol validation example |
| 12/6-12/13 | Presentations |

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Homework

- Most lectures will have an assignment
- All assignments are due by following class
 - Email
 - Floppy disk
 - Written
- An assignment will include extra credit
- Please turn in for at least partial credit

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Honesty and Integrity

- It is expected that all will discuss the homework problems
- Questions can be submitted by email, responses will be to the whole class via email
- All responses that *seem* to be from one source will be discarded

Cooperative understanding, independent solutions

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Reading and Thought

- Inspect the class web page
- Inspect the links from the class web page
- Supplementary readings are suggested to help understanding

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