

# INTRODUCTION TO I3ISU



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# AGENDA

- Overall perspective
- Schedule
- Resources
- Lab challenges & review
- Exam
- Practical stuff



# OVERALL PERSPECTIVE

- I3ISU will teach you about...
  - Linux
  - OSs
  - Multithreaded (parallel) programs
  - Event driven programming
  - Design patterns & Idioms ...



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- I3ISU will teach you about...
  - Linux
  - OSs
  - Multithreaded (parallel) programs
  - Event driven programming
  - Design patterns & Idioms ...
- The last C++ course you will have
  - All previous courses considered known and will be used
  - A large degree of self-support

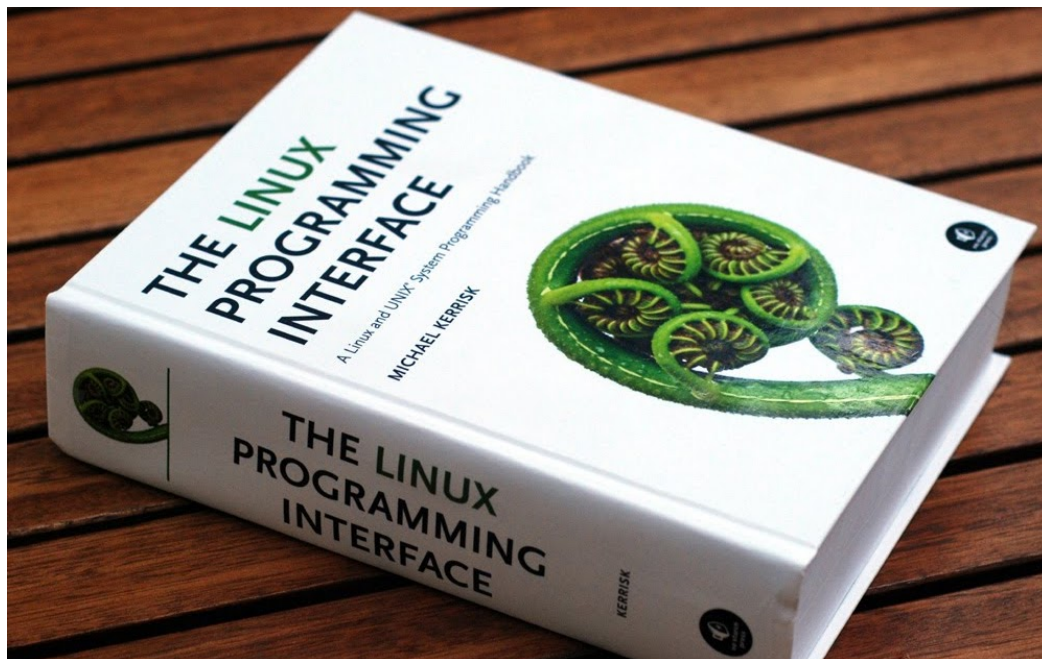


# SCHEDULE

- Course I3ISU
- Introduction to OS and Kernel
- Linux development & Cross compilation(x2)
- Processes & Threads
- Thread Synchronization I & II (x2)
- Thread Communication (x2)
- OS API (x2)
- Resource Handling
- Message system



# RESOURCES



Michael Kerrisk: "The Linux Programming Interface"



Notes, on-line articles, man/info pages... (GOOGLE)

- OLA - OnLine Articles
- TLDP - The Linux Documentation Project

# RESOURCES

- Programming environment
  - Target OS: *Poky Linux*
    - Custom: *5.4.83 linux kernel*
    - Custom: *package selection*
  - IDE: *Qtcreator or Eclipse, whatever you want*
  - Host OS: *Ubuntu 21.04*
  - Platform: *Raspberry Pi Zero Wifi*



# YOUR NEW BEST FRIEND



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# RESOURCES

- Redmine
  - Course info
    - See brightspace
  - Articles, notes, etc.
    - <https://redweb.ece.au.dk/courses/projects/i3isu/repository>  
(\*)
  - Repository - (Course schedule, Presentations & Exercises)
    - See BB for link - actual requires vpn
- ASE's Raspberry Pi Zero Wifi Wiki
  - <https://redweb.ece.au.dk/devs/projects/raspberry-zero/wiki>  
(\*)
- On-line documentation
  - The web in general



# LECTURES

- Participation or not?
  - Obviously - your choice!!!
  - Problem
    - This is difficult stuff, staying away reduces your chances of attaining adequate understanding
  - Not a solution
    - Statement(s): "I am behind, so it doesn't help coming, I would rather stay away to finish of the last exercise..."
    - Well, now you risk being behind in 2...
  - For **most** students it applies
    - Poor participation => poorer or poor grade



# LAB CHALLENGES & REVIEW

- Exercises in groups
  - Team up minimum 2 and max 3 in each
  - In the courses links section you will find a link to I3ISU googledoc spreadsheet (*Exercise status*)
  - A week's **exercise** consists of a lab challenge and peer review of one other hand in done by fellow students (Read and follow *Guide\_to\_the\_use\_of\_a\_wiki\_in\_I3ISU.pdf*)
    - Week 1 Exercise commenced - working on lab challenge
    - Week 1 Lab challenge completed midnight at latest (see googlespreadsheet)
    - Week 2 Review completed at midnight (see googlespreadsheet)
  - Deadlines not met equates failure!!!
    - Spreadsheet not updated equates failure regardless of whether the assignment is completed or not!
  - Load is approximately 9 hours a week



# PREREQUISITE FOR & THE EXAM

- Prerequisite for
  - Lab exercises on Wiki with reviews must be met with 75% approval
  - Groups of minimum 2 persons - maximum of 3.
- The exam
  - 20 minute oral exam, external censorship, 7-scale grade
    - Exercises may be printed and used as an aid at the exam
    - No computers allowed
- Exams document
  - Be sure to check it out - contains all topics, sub topics, corresponding curriculum and material
    - Filename: *OralExam.pdf*



# PRACTICAL STUFF

- Raspberry Pi Zero Wifi
  - Buy at *stakbogladen*
- Course evaluation
  - Mid-semester -> talk
  - End-semester -> GoogleDoc questionnaire

# PRACTICAL STUFF

- Short demonstration/presentation of Redmine
- Short intro to the Exercise status googledoc spreadsheet