



UiO : **University of Oslo**

FYS3240

Data acquisition & control

# Exam preparations

**Spring 2019**



Bekkeng, 4.6.2019

# Avsluttende skriftlig eksamen

- Written exam only in English!
  - See first lecture and course page messages!
- You can answer in Norwegian (bokmål or nynorsk) or English.

# Curriculum

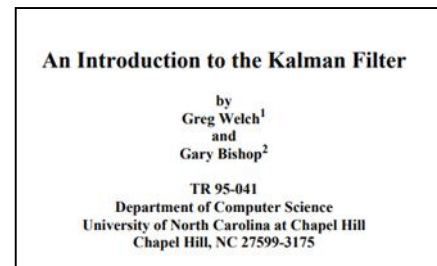
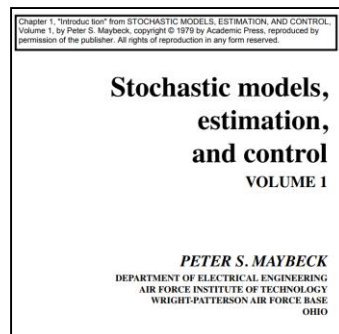
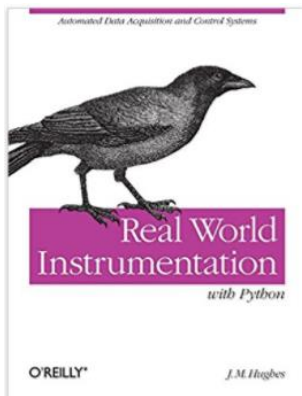
- See the reading list on FYS3240 page

## Curriculum

- Lecture slides
- Real World Instrumentation with Python: Automated Data Acquisition and Control Systems:
  - Chapter 1.
  - Chapter 2 page 39-57
  - Chapter 7 and page 559
  - Page 198 – 202, 395 – 405, 431 – 436 and 349 - 351.
  - Chapter 9, page 303 - 339
- Two papers:
  - Stochastic models, estimation and control, P. Maybeck
  - An introduction to the Kalman filter, G. Welch and G. Bishop
    - Section 1 and 3
- Laboratory exercises

## Material only for orientation (not for Exam questions)

- L2: slide 31 (Creating Executables)
- L3: slide 36 (Connectivity)
- L8: slide 45
- L9: slide 39 and 40 (Remote DMA and Infiniband)
- L10: slide 16 and 17 (FPGA details)
- L11: slide 8
- L12: slide 6, 28 and 29
- L13: slide 23



# Exam:

**Permitted material: Calculator**

## Note:

- You are expected to know basic LabVIEW and can get LabVIEW questions. However, you will not be asked to do LabVIEW programming with pen and paper.

0 to 3 points for each problem → answer all questions!

# Exam evaluation I

- **Syntaksfeil i programkode:** I utgangspunktet trekkes det ikke for dette.
- **Svarer på noe annet enn det det spørres om:** gir null poeng, med mindre mange studenter har misforstått spørsmålet på tilsvarende måte.
- **Manglende begrunnelse:** Skal trekkes 50 % av maksimal score, hvis oppgaven ber spesifikt om begrunnelse for svaret.

# Exam evaluation II

- Det forventes at studentene husker sentrale tall som maksimal hastighet og maksimal lengde på de meste sentrale bussene
  - eksempelvis PCI, PCI Express, USB, Ethernet og RS-232/422/485.