DTU Compute
Technical University of Denmark
Building 324
DK–2800 Lyngby
Denmark

HHL 2024–08–28

02158 CONCURRENT PROGRAMMING FALL 2024

General Information

Course Activites

Scheduled course activities lie within *class schedule E1B*, Thursday afternoon 13–17. The activities are:

- **Lectures** introducing new topics or discussing selected issues. The lectures are given in English. All lectures will be held in Auditorium 44, Building 303A at 13–15.
- **Exercise classes** where you solve paper-and-pencil problems in groups. The exercise classes will take place in Building 303A, area East (outside the auditorium).
- **Programming labs** where you solve programming problems at your computers. Programming labs also take place in the East area of Building 303A.
- **Assignment labs** where you work on the mandatory assignments. Same place and time as above.

The contents and other details of each activity is described in the *activity plan*.
There are, of course, further activities that you have to carry out on your own:

- **Studies** of textbook and notes as indicated on the activity plan.
- **Home-work exercises (non-mandatory)** as indicated on the activity plan. These will typically be slightly more demanding exercises that will help you deepen your understanding and prepare you for the exam. A few times the homework may be handed in for feedback.
- **Mandatory assignment work** — see below.
- **Mini labs** may be given occationally for you to try out on your own.

Course Contents

- **Core Concurrent Programming Topics** These constitute the backbone of the course. They focus on describing systems with concurrent activities and solving related communication and synchronization problems at a conceptual level using (pseudo-) language constructs. The core topics make up the syllabus for the exam.
- **Supplementary Concurrency Topics** These topics will complement the core topics. They include principles of using concurrency in software design and touches upon advanced topics like concurrent data structures.

The schedule of topics is indicated on the activity plan.

Text Books and Notes

You must obtain the following material:

- Gregory R. Andrews: *Foundations of Multithreaded, Parallel, and Distributed Programming.* Addison-Wesley 2000. ISBN 0-201-35752-6.

  You must obtain a copy of this textbook in order to follow the course and attend the exam. It is available in the campus bookshop (*Polyteknisk Boghandel*) for about **450 kr.** (students' price).

- A note on *Basic Concurrency Theory.* It may be downloaded from DTU Learn.

Further notes, exercises etc. will be freely available online. The *course material page* will list or link to all essential material for the course.

Course Information

Almost all course information will be given through the *course homepage:*

`www.compute.dtu.dk/courses/02158`.

Major course changes and events will also be announced via DTU Learn.

Teacher

The course is taught by:

- Assoc. Prof. Hans Henrik Løvengreen [HHL] (course reponsible)
  DTU Compute, Building 322, Room 110. Tel. 4525 3763, email: `hhlo@dtu.dk`

Mandatory Assignments

During the semester, you will be asked to hand in four *mandatory assignments.* The assignments are evaluted pass/no pass.

The assignments will be due every third week according to the following schedule:

Assignment no.	**Set**	**Due**
1	Friday, Sep 13	Wednesday, **Sep 25**, 23.59
2	Friday, Oct 4	Wednesday, **Oct 23**, 23.59
3	Friday, Nov 1	Wednesday, **Nov 13**, 23.59
4	Friday, Nov 22	Friday, **Nov 29**, 23.59

[The day of the week for the fourth deadline has been corrected.]

The mandatory assignments should be carried out in *groups of 2-3 persons.* Help for the assignments will be given at selected lab sessions indicated on the activity plan.

Exam

Three of the four mandatory assignments must be passed in order to attend the written exam. If you fail any of the first three assignments, you will be given a chance to *resubmit* it.

A *4-hours written exam* will take place on **Monday, December 9, 2024**. Your are (only) allowed to use written reference works for the exam (ie. all printed material and notes, but **no computers**).

The course will be evaluted in the 7 step scale based on the exam performance (only).