

# 1. Concurrent programming (Part II)

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Nelma Moreira & José Proença

Concurrent programming (CC3040) 2024/2025

CISTER – U.Porto, Porto, Portugal

<https://fm-dcc.github.io/cp2425>



## Contents of this module

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## Blocks of sequential code running concurrently and sharing memory:

- What is **Scala** and why using it?
- Concurrency in Java and its memory model
- Basic concurrency blocks and libraries
- Futures and promises (maybe)
- Actor model

## We will be **less formal**

- focus on concepts and programs
- study operators and libraries
- tool support with **Scala**

## We will have **hands-on**

- Practical programming exercises
- Apply the concepts we learn



Community Experience Distilled

# Learning Concurrent Programming in Scala

*Second Edition*

Learn the art of building intricate, modern, scalable, and concurrent applications using Scala

*Foreword by Martin Odersky, Professor at EPFL, the creator of Scala*

Aleksandar Prokopec

Packt>

# Logistics

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Relevant class material and announcements will be posted on the website periodically

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https://fm-dcc.github.io/cp2425
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### Lecturers

- Nelma Moreira  
<https://www.dcc.fc.up.pt/~nam/>
- [nelma.moreira@fc.up.pt](mailto:nelma.moreira@fc.up.pt)
- office hours: tbd
- **José Proença**  
<https://jose.proenca.org>
- [jose.proenca@fc.up.pt](mailto:jose.proenca@fc.up.pt)
- Thursday afternoon

*(Please send an email the day before if you wish to meet)*

Grading will consist of:

- **40%** (**T1**) – individual **test** for part 1 ( $\geq 6$ )
- **30%** (**T2**) – individual **test** for part 2 ( $\geq 6$ )
- **70%** (**FE**) – individual **final exam** for parts 1 and 2
- **30%** (**CW**) – **course work** for parts 1 and 2
  - groups of at most 2 students
  - **10%** for part 1
  - **20%** for part 2

### Normal period

$$T1 \times 0.4 + T2 \times 0.3 + CW \times 0.3 \quad (\geq 9.5)$$

Mandatory 75% attendance in PL

### Extra period (*recurso*)

$$FE \times 0.7 + CW \times 0.3 \quad (\geq 9.5)$$