Machine Learning B (MLB)

Block 4, 2025

Course website

Instructors

Yevgeny Seldin

Nirupam Gupta
(Course organizer)

Amartya Sanyal

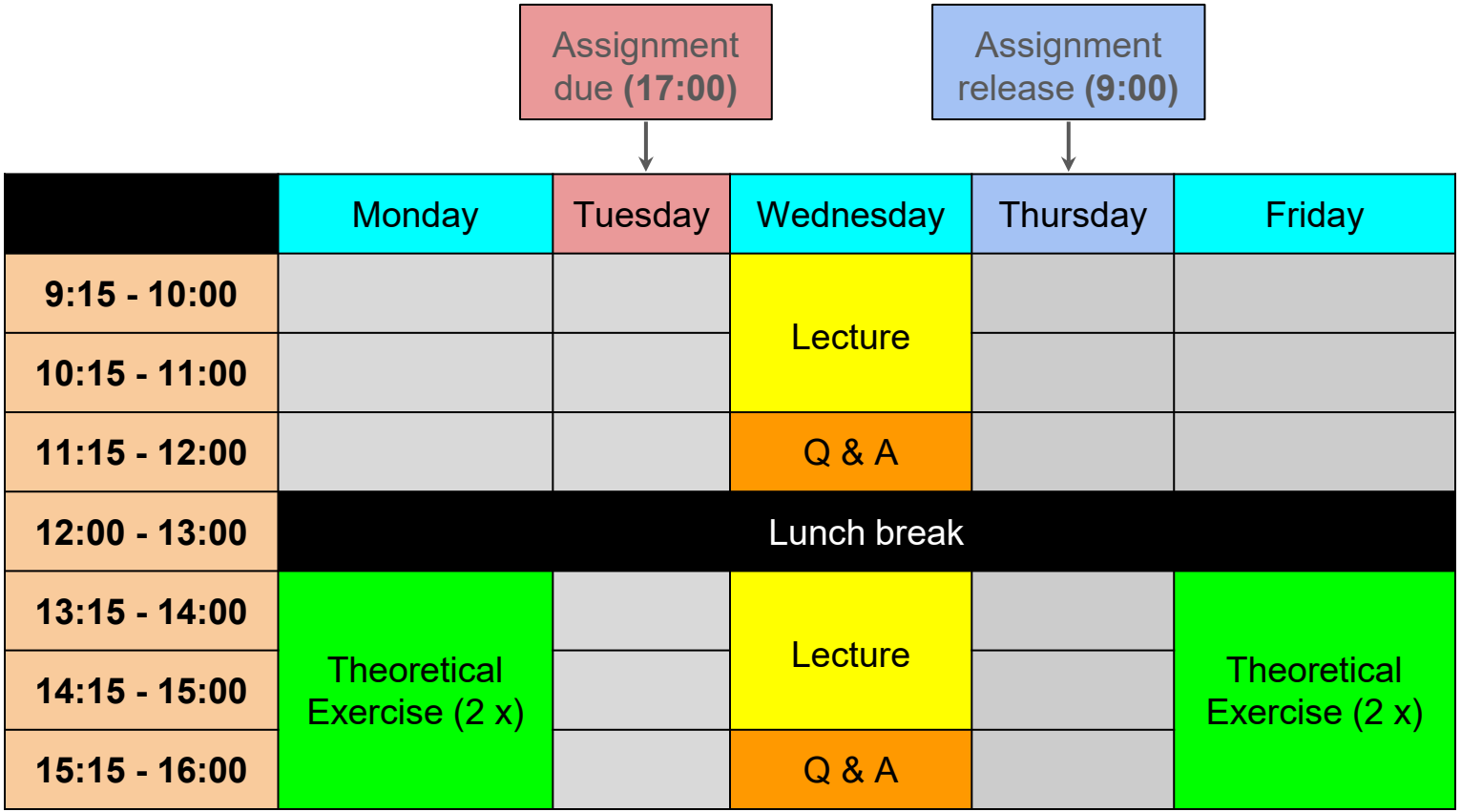
Teaching assistants

Andreas Manoukian

Mikolaj Tymon Mazurczyk

Harald Eskelund Franck

Overview of course schedule



Lectures: when & where

Lectures will be held on **wednesdays:** 9:15 - 11:00 (*extendable to 12:00*) and 13:15 - 15:00 (*extendable to 16:00*)

All the lectures will be **steamed online** (Zoom link on Absalon).

Lecture recordings will be uploaded on Absalon.

Week 17 - 24	**April 23 - June 11**	9:15 - 12:00	**Store Auditorium, Nørre Alle 53, NEXS**
Week 25	**June 18**	9:15 - 12:00	**Aud 05, Universitetsparken 5, HCØ**
Week 17 - 25	**April 23 - June 18**	13:15 -16:00	**Aud 05, Universitetsparken 5, HCØ**

Visit **‘When, where & what’** page on Absalon for more details.

Theoretical exercises: when & where

3 weekly theoretical exercises: **2 parallel sessions** on **Mondays, 13:15 - 16:00** and **1 session** on **Fridays, 13:15 - 16:00.**

1 theoretical exercise will be held **online on Mondays, 13:15 - 14:00** (Zoom link on Absalon)

Schedule for Mondays:

Week 18 - 23, 25	**April 28 - June 2**, **June 16**	13:15 -16:00	**Aud 03 AKB, Universitetsparken 13**
Week 18 - 20	**April 28 - May 12**	13:15 -16:00	**øv- Karnapsalen, (54 pers.), Nørre Alle 53**
Week 21 - 25	**May 19 - June 16**	13:15 -16:00	**Store UP1 - 5-1-02, Universitetsparken 1-3, DIKU**

Schedule for Fridays:

Week 17 - 24	**April 25 - June 13**	13:15 -16:00	**Aud 05, Universitetsparken 5, HCØ**

Assignments & final grading

Weekly assignments (6 - 8 in total) to be submitted individually:

- **Available** on **Thursdays at 9:00**
- **Due** on the following **Tuesdays at 17:00**

Best n -1 (out of n) graded assignments will count towards the final grade

!Warning! Late submissions will not be graded

No final exam

Re-exam (2 elements):

1. Must submit at least 5 assignments no later than 2 weeks before the oral exam
2. A 30-minute oral examination, with no aids allowed

Course topics

Course week	Topic	Instructor
Week 1 (April 23)	Course introduction, Recap of MLA	Yevgeny Seldin
	Information theory basics and the KL inequality	
Week 2 (April 30)	Optimization (Part 1)	Nirupam Gupta
	Support vector machines (SVMs)	
Week 3 (May 7)	Kernels and basic kernel methods	Nirupam Gupta
	Optimization (Part 2)	
Week 4 (May 14)	VC analysis and PAC	Amartya Sanyal
	Computational learning theory (hardness of PAC learning)	

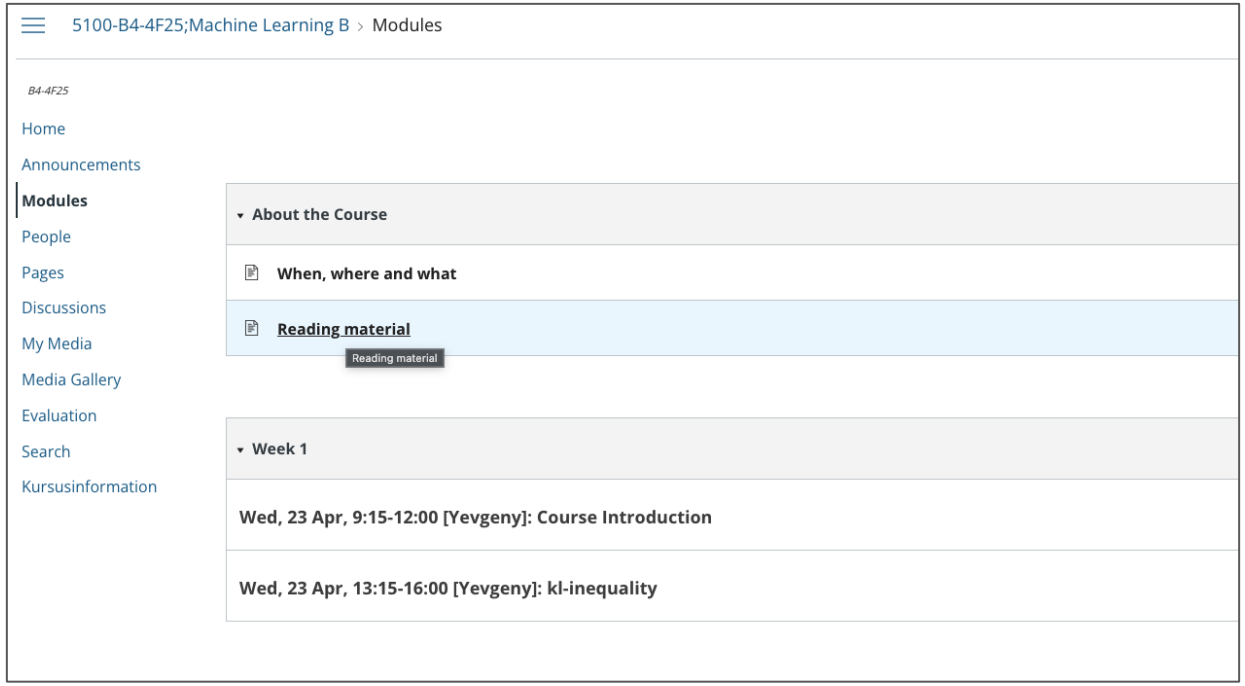
Course topics (cont'd)

Course week	Topic	Instructor
Week 5 (May 21)	PAC-Bayesian analysis	Yevgeny Seldin
Week 5 (May 21)	VC analysis of SVM	Amartya Sanyal
Week 6 (May 28)	PAC-Bayesian analysis of the weighted majority vote	Yevgeny Seldin
Week 6 (May 28)	Boosting (Part 1)	Amartya Sanya
Week 7 (June 4)	Recursive PAC-Bayes and second order bounds	Yevgeny Seldin
Week 7 (June 4)	Boosting (Part 2)	Amartya Sanyal

Course material

To be made available on Absalon page on regular basis.

Check out the **“Reading material”** page on Absalon.



When in doubt

Post a discussion on Absalon

(If needed) Contact *Nirupam Gupta* (nigu@di.ku.dk)