

TAMS22 Probability theory and Bayesian networks: Course information and course plan, HT2020.

Course literature

Koski, T. and Noble, J. M. *Bayesian Networks: An Introduction*. Wiley, 2009.

Teacher

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Course structure

12 lectures, where the lecturer presents theory and examples. 12 tutorial sessions, where the students solve recommended problems (mainly from the course book), with the lecturer present for help if needed.

Examination

A written exam consisting of six problems, each worth 3 points. A total of 8 points is required for a passing grade. Tools allowed at the exam are: a calculator with memories erased, and one sheet of A4 paper with the student's own handwriting on both sides. Solutions to the exam problems will be made available for downloading as soon as possible after the end of the exam. The results will be communicated to the students via email.

A compulsory home assignment (see below).

Home assignment

A compulsory home assignment, consisting of problems from the course book that require programming in Matlab. A report should be written and handed in no later than Friday, January 22, 2021, at 17.00.

List of home assignment problems: Chapter 3, 8b; + others (TBA).

Course plan

L denotes a lecture; the corresponding sections of the course book are given. T denotes a tutorial session; recommended problems from the course book are listed. The plan is preliminary; more information will be added as the course proceeds.

L1 (31/8). Chapter 1.

T1 (4/9). 1, 3, 5, 11, 12, 13, 14.

L2 (7/9). Section 2.1–2.4, 2.6.

T2 (11/9). 1a,b, 2, 3, 4, 5, 6, 10.

L3 (14/9). Section 2.8–2.10.

T3 (18/9). 7, 8, 9, 11, 12, 13, 14.

L4 (21/9). Section 2.5, 3.1–3.4.

T4 (25/9). 1, 2, 3, 4, 5, 8a, 9. (8b is part of the home assignment.)

L5 (28/9). Section 4.1–4.3.

T5 (2/10). 1, 2, 3, 4, 7, 11.

L6 (5/10). Section 4.4–4.5.

T6 (9/10). 5, 6, 8, 9, 10. Note: in the statement of problem 10, “ p and \mathcal{G} are faithful” should be changed to: “ $A \perp B \parallel_{\mathcal{G}} S \Rightarrow A \perp B \mid S$ ”.

L7. Chapter 10.

T7.

L8. Chapter 10, Section 8.9, Chapter 11.

T8.

L9. Chapter 9.

T9.

L10. Chapter 5.

T10.

L11. Chapter 6.

T11.

L12. TBA.

T12.