MASS TRANSFER 2019

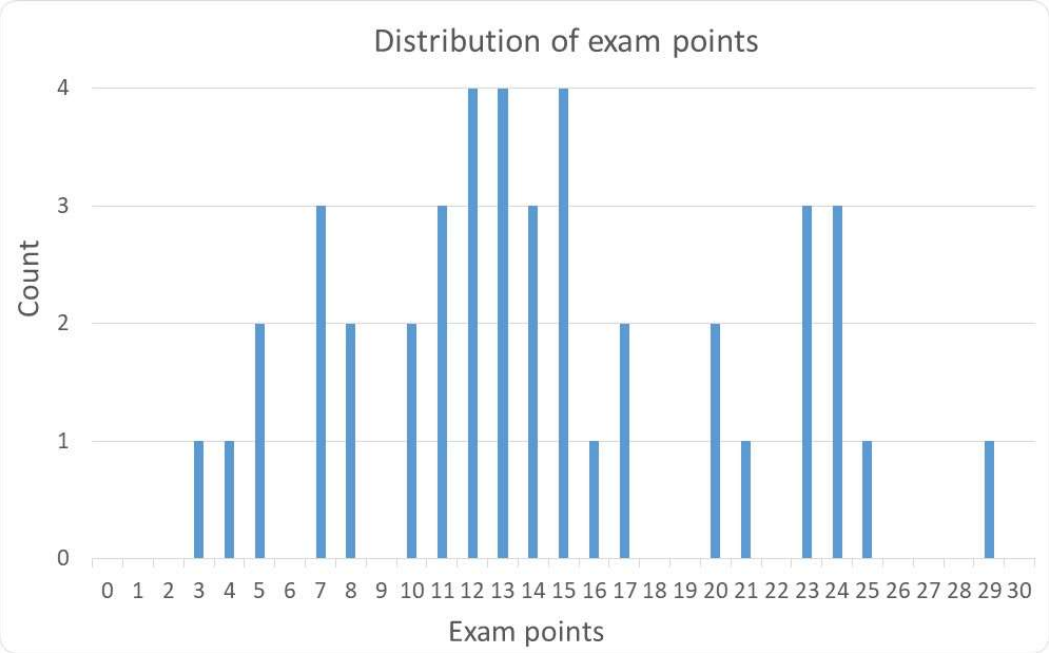
Structure of the course

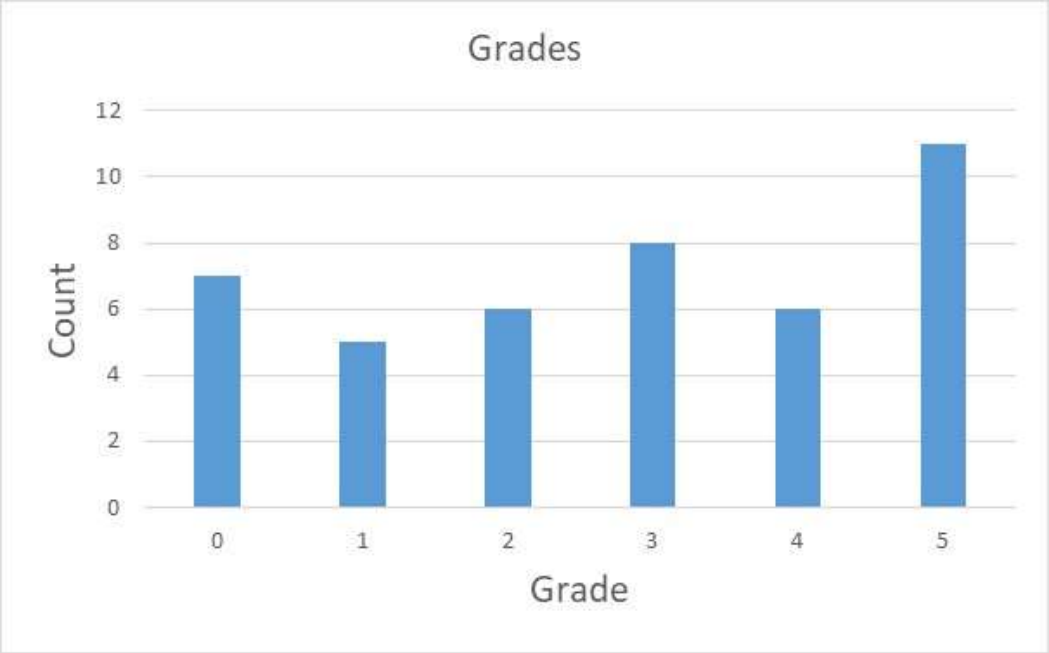
- 6 lessons (8.1, 22.1, 29.1, 12.2, 26.2, 12.3)
- 6 excercise lessons (18.1, 25.1, 1.2, 15.2, 1.3, 15.3)

  including 5 homework problems (1/6=17% of total course points)
- 3 large assignments (33% of course points)
- Exam (50% of course points)

- Maximum points from course: 60 p
- To pass the course, **about** 20 (of 60) points is needed **and** at least 6 (of 30) points of exam is needed
- Grade five **about** 48 (of 60) points

Last three courses





Teaching materials

- Ari Seppälä & Markku Lampinen, Aineensiirto-oppi, Yliopistokustannus no. 605
  - Electric copy of text book (Finnish and English version) is available at MyCourses
  - Removed topics: chapters 6.1, 11.1, 11.3, 11.4, 12
- Lecture slides
- Solutions of excercise problems (solutions of homework problems are not included, these solutions are given during excerices)

Course topics

General

- Mixtures basics (Lecture 1)
- Diffusion (Lectures 1-2)
- Advection + diffusion = convection (Lecture 2)
- ”Self-induced” convection: Stefan flow, natural/free convection (Lectures 2-3)
- Analogy between heat and mass transfer (Lecture 3)
- Mass transfer correlations and coefficients (Lecture 3)
- Coupled heat and mass transfer (Lecture 4)
- Thermal diffusion, thermophoresis and other phenomena (Lecture 4)
- Mass transfer in porous/solid materials (Lectures 5-6)

Assignments

- Moisture movement and condensing of water vapor in building wall structures
- Enhanced cooling with wet surfaces
- Drying of porous material

Need to ask something? Contact:

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Lecturer:

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