

**151-0917-00 V Stofftransport (Mass Transfer) ML H 44****Book E.L. Cussler: „Diffusion“ 3rd Ed., Cambridge University Press (2009)****Lectures, Wednesday, 10:15-11:55h,**<http://www.ptl.ethz.ch/education/lectures/mass-transfer.html>*S.E. Pratsinis & V. Mavrantzas ML F14*

- 18.09. Lect. 1: Organization, Introduction, Brownian Diffusion
- 25.09. Lect. 2: Diffusion in Dilute Solutions: Fick's Laws
- 02.10. Lect. 3: Applications of Fick's Laws
- 09.10. Lect. 4: Diffusion in Concentrated Solutions (Prof. V. Mavrantzas)
- 16.10. Lect. 5: Estimation of Diffusivities (Prof. V. Mavrantzas)
- 23.10. Lect. 6: Generalized Mass Balances: Rotating Disk
- 30.10. Lect. 7: Mass Transfer Coefficients (MTC) 1
- 06.11. Lect. 8: Mass Transfer Coefficients (MTC) 2
- 13.11. Lect. 9: Dispersion (Prof. V. Mavrantzas)
- 20.11. Lect. 10: Basic Theories for Mass Transfer Coefficients
- 27.11. Lect. 11 Hetero/Homogeneous Chemical Reactions
- 04.12. Lect. 12: Boundary Layers: Mass & Heat/Momentum Transfer (Prof. M.R. Kholghy)
- 11.12. Lect. 13: Mass Transfer and Chemical Reactions
- 18.12. Lect. 14: Review: Fick's laws, dilute/concentrated solutions, MTC & reactions

**151-0917-00 U Stofftransport Übungen (Exercises) HG E 1.1****Exercises, Tuesday, 13:15-15:00h**

- 24.09. Ex. 1: Brownian Diffusion and Fick's Laws
- 01.10. Ex. 2: Diffusion in Dilute Solutions: Fick's Laws
- 08.10. Ex. 3: Applications of Fick's Laws
- 15.10. Ex. 4: Diffusion in Concentrated Solutions
- 22.10. Ex. 5: Estimation of Diffusivities **& Test 1 (13:15-14:00)**
- 29.10. Ex. 6: Generalized Mass Balances Rotating Disk
- 05.11. Ex. 7: Mass Transfer Coefficients 1
- 12.11. Ex. 8: Mass Transfer Coefficients 2
- 19.11. Ex. 9: Dispersion
- 26.11. Ex. 10: Basic Theories for Mass Transfer Coefficients **& Test 2 (13:15-14:00)**
- 03.12. Ex. 11: Chemical Reactions
- 10.12. Ex. 12: Boundary Layers
- 17.12. Ex. 13: Mass Transfer and Chemical Reaction

**Participation in the tests can improve the final grade!** One test receiving 80% and above gives **0.5** Note bonus in the final exam while two tests receiving 75% and above per test (on average) gives **1** Note bonus in the final exam **up to 30% of the final Noten**. Pass is @ 60%

**Lecturers/Assistants:**

Prof. Vlasios Mavrantzas (till mid-November) &  
Dr. George Kelesidis (from mid-November)  
Dr. Reza Kholghy  
Mr. Pascal Gschwend  
Mr. Nicolay Pineau  
Ms. Ines Weber  
Mr. Simon Benz  
Dr. Andreas Güntner

**Office & Sprechstunden**

ML F14 upon request  
ML F24 upon request  
ML F25, upon request  
ML F16, Tuesday 09:00-11:00  
ML F24, Thursday 13:00-15:00  
ML F16, Monday 09:00-11:00  
ML F26, Wednesday 13:00-15:00  
ML F22 upon request