Code: ENVE 322  Course: Heat and Mass Transfer

Mandatory: X  Elective:  Specialization: 

Semester  F  X  S  Teaching Units 3  ECTS 5

Teaching Hours per week: T 2  E 1  L 0

Instructors: C.V. Chrysikopoulos

Textbooks (Eudoxus): Bergman, Lavine, Incopera, Dewitt, Μεταφορά Θερμότητας και Μάζας, Εκδόσεις Φουήντας, 2013

Other recommended books: Brodkey Robert S., Hershey Harry C., Φαινόμενα Μεταφοράς, Εκδόσεις Τζιόλα και Υιοί ΟΕ

Notes: E-Class

Labs:  # of lab exercises:  Individual Reports  Team Reports

Lab final written exam  % of Final Lab Grade

Final Grade:

Final Exam  70%

Project  

Labs  

Other (Problem Sets)  30%

Course Syllabus:

- Introduction to transport phenomena – Fundamentals
- Mass transfer mechanisms
- Concentration, rate of transfer & diffusion
- Diffusion coefficient
- Mass balance
- Steady and non-steady diffusion
- Diffusion with chemical reaction
- Similarities between momentum, heat and mass transfer
- Dimensional analysis
- Analytical solutions for simple heat and mass transfer systems
- Applications