## Course Information

**Code:** ENVE 421  
**Course:** Applications in Environmental Modeling

**Mandatory:** X  
**Elective:**  
**Specialization:**  

**Semester**  
- F  
- X  
- S  

**Teaching Units:** 3  
**ECTS:** 5

**Teaching Hours per week:**  
- T: 2  
- E: 1  
- L: [blank]

**Instructors:** N. Nikolaidis

**Textbooks (Eudoxus):** Environmental Modelling, J.L. Schnoor, 1996

**Other recommended books:**

**Notes:** E-class: – N. Nikolaidis

**Labs:**  
- # of lab exercises: [blank]  
- Individual Reports [blank]  
- Team Reports [blank]  
- Lab final written exam [blank]  
- % of Final Lab Grade [blank]

**Final Grade:**  
- Final Exam: 60 %  
- Project: 30 %  
- Labs: [blank]  
- Other (Homework): 10 %

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**Course Syllabus:**

1. Introduction to Environmental Systems Modeling  
2. Transport Phenomena  
   - Dispersive Systems, Advective Systems, Advective/Dispersive Systems,  
   - Compartmentalization,  
   - Sediment Transport,  
   - Simple Transport Models,  
   - Parameter Estimation.  
3. Chemical Reaction Kinetics  
4. Eutrophication  
5. Ecosystem Models  
6. Conventional Pollutants in Rivers and Estuaries  
7. Toxic Organic Chemicals in Lakes, Rivers and Estuaries