

MARMARA UNIVERSITY

Faculty of Engineering

COURSE INTRODUCTION FORM

ENVE 435 MICROBIOLOGY FOR WASTEWATER ENGINEERING (3+0)3
2011/2012

Course Objectives	ENVE 435 is designed to introduce the fundamental principles and current trends in the microbiology for wastewater engineering. Some selected topics in microbiology of activated sludge, biological nitrogen and phosphorus removal and anaerobic digestion systems will be covered. Discussions of concepts of biotechnology as applied to biodegradation of solid and toxic wastes, and degradation of recalcitrant organic matters will be conferred. Recent advances in biological wastewater treatment and in application of new bioreactor configurations will also be discussed.
Prerequisite	-
Instructor	Assist.Prof.Dr. Kozet YAPSAKLI (e-mail: kyapsakli@marmara.edu.tr)
Office Hours	Friday 09:00-12:00 (MB 642) – Phone: 0 216 348 02 92 (290)
Textbook	Wastewater Engineering: Treatment and Reuse, (4 th edition), by Metcalf & Eddy, McGraw-Hill, 2003. Environmental Biotechnology: Principles and applications, by Bruce E. Rittmann, Perry L. McCarty, McGraw-Hill, 2001.
References	Brock Biology of Microorganisms, (10 th edition), by Madigan, Martinko, & Parker, Prentice Hall, 2003.
Course Contents	<ol style="list-style-type: none">1. Basics of Microbiology2. Introduction to Biological Wastewater Treatment3. Activated Sludge Process4. Biological Nitrogen Removal5. Anammox Process6. Membrane Bioreactor Systems7. Biological Phosphorus Removal8. Biodiesel Production from Algae9. Anaerobic Digestion10. High Strength Wastewater Treatment
Grading Policy	Midterm 1 : 30% Midterm II : 30% Final : 40%