Postgraduate Studies Program
«ENVIRONMENTAL ENGINEERING»

Specialization: 2-WWT: WATER AND WASTE TREATMENT

Code: WWT 202 Course: Conventional Water and Wastewater Treatment

<table>
<thead>
<tr>
<th>Required</th>
<th>Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1st semester</th>
<th>2nd semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Instructor: Professor Evan Diamadopoulos (Tel.: 28210-37795)

Bibliography

Course objectives
The course aims at providing the fundamental analysis and design of the most important unit operations as well as chemical and biological processes used for wastewater treatment. The course is only offered to non-environmental engineering students.

Syllabus
1st Week
Introduction to water/wastewater pollution and quality control

2nd Week
General principles on water/wastewater treatment, Preliminary treatment

3rd Week
Sedimentation-I (Basic principles)

4th Week
Sedimentation-II (Design of sedimentation tanks)

5th Week
Filtration

6th Week
Coagulation, Flocculation

7th Week
Adsorption
8th Week
Introduction to chemical reaction kinetics, Design of chemical reactors

9th Week
Fundamentals of aerobic processes, Activated sludge-I

10th Week
Activated sludge-II, Nitrification – Denitrification

11th Week
Fundamentals of anaerobic processes

12th Week
Disinfection

Work load
A. Lab exercises
   1. Monitoring of the University campus, full-scale WWTP through BOD and COD measurements
   2. Secondary sedimentation
   3. Coagulation
   4. Activated carbon adsorption

B. Projects: Written assignments

Student evaluation
1. Lab reports (20%)
2. Written assignments (30%)
3. Final exam (50%)