# DESING OF WASTEWATER COLLECTION SYSTEMS

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| 1 | Course Title: | DESING OF WASTEWATER COLLECTION SYSTEMS | |
| 2 | Course Code: | CEV3036 | |
| 3 | Type of Course: | Optional | |
| 4 | Level of Course: | First Cycle | |
| 5 | Year of Study: | 3 | |
| 6 | Semester: | 6 | |
| 7 | ECTS Credits Allocated: | 3.00 | |
| 8 | Theoretical (hour/week): | 2.00 | |
| 9 | Practice (hour/week): | 0.00 | |
| 10 | Laboratory (hour/week): | 0 | |
| 11 | Prerequisites: | - | |
| 12 | Language: | Turkish | |
| 13 | Mode of Delivery: | Face to face | |
| 14 | Course Coordinator: | Prof. Dr. SEVAL KUTLU AKAL SOLMAZ | |
| 15 | Course Lecturers: | | |
| 16 | Contact information of the Course Coordinator: | Prof.Dr.Gökhan Ekrem ÜSTÜN<br>gokhaneu@uludag.edu.tr<br>Adres: Uludağ Üniversitesi, Mühendislik-Mimarlık Fakültesi, Çevre Mühendisliği Bölümü, Görükle, 16059, BURSA | |
| 17 | Website: | | |
| 18 | Objective of the Course: | To provide the students with the basic information and skills (which are) required in designing the environmental health facilities (Sewer systems) according to hydraulic and technical rules | |
| 19 | Contribution of the Course to Professional Development: | | |
| 20 | Learning Outcomes: | | |
| | | 1 | Acquiring adequate engineering designs in professional sense in the projects of sewer systems and seizing the modern technical development in the design studies related with removing the wastewater. |
| | | 2 | Data editing and professional-level engineering. Rehabilitation works on the sewerage systems. |
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| 21 | Course Content: | | |
| | **Course Content:** | | |
| Week | Theoretical | Practice | |
| 1 | Introduction, General information, wastewater characterization | | |
| 2 | Classification of sewerage system | | |

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| **3** | Comparison of sewerage system | |
| **4** | Channel network system | |
| **5** | Location and number of channels, sized sections of the channels | |
| **6** | Flows to incoming sewerage systems, leaking water incoming to the channels | |
| **7** | Hydraulic calculations of the channels and flows | |
| **8** | Operational equipments of channel Networks, inverted siphons | |
| **9** | Repeating courses and midterm exam | |
| **10** | Account the rain, the coefficient of time | |
| **11** | Flows to stormwater channels | |
| **12** | The calculation of the stormwater channels | |
| **13** | Spillways, wastewater pumps (Quiz) | |
| **14** | Infrastructure systems of Bursa, characteristics of the infrastructure systems. | |

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| **22** | Textbooks, References and/or Other Materials: | 1.Su Getirme ve Kanalizasyon Yapılarının Projelendirilmesi, Samsunlu A, SAM Çevre Teknolojileri Merkezi Yayınları-1997<br>2.Su Temini ve Çevre Sağlığı, Karpuzcu M.,Boğaziçi Üniversitesi Matbaası 1985<br>3.Standard Handbook for Civil Engineers, Frederick S. Merritt, McGraw-Hill Book Company. |

| Activites | | Number | Duration (hour) | Total Work Load (hour) |
|---|---|---|---|---|
| Theoretical | R | 14 | 2.00 | 28.00 |
| Practicals/Labs | | 0 | 0.00 | 0.00 |
| Self study and preperation | | 14 | 2.00 | 28.00 |
| Homeworks | | 0 | 0.00 | 0.00 |
| Projects | | 0 | 0.00 | 0.00 |
| Field Studies | | 0 | 0.00 | 0.00 |
| Midterm exams | | 1 | 10.00 | 10.00 |
| Others | | 1 | 8.00 | 8.00 |
| Final Exams | | 1 | 12.00 | 12.00 |
| Total Work Load | | | | 96.00 |
| Total work load/ 30 hr | | | | 2.87 |
| ECTS Credit of the Course | | | | 3.00 |

| 25 | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS | | | | | | | | | | | | | | | |
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| | **PQ1** | **PQ2** | **PQ3** | **PQ4** | **PQ5** | **PQ6** | **PQ7** | **PQ8** | **PQ9** | **PQ10** | **PQ11** | **PQ12** | **PQ13** | **PQ14** | **PQ15** | **PQ16** |
| **ÖK1** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK2** | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**LO: Learning Objectives PQ: Program Qualifications**

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| **Contribution Level:** | **1 very low** | **2 low** | **3 Medium** | **4 High** | **5 Very High** |