

Faculty	Architecture, Civil and Environmental Engineering
Course Title	Industrial Wastewater Management
Number of ECTS credits	6
Hours per week (SWS)	5
Semester	Autumn Term (Winter Semester)
Course objective	<p>After successful participation, students can:</p> <ul style="list-style-type: none"> • understand the legal framework for industrial wastewater treatment • understand and apply the structure and procedure in industrial waste water and sludge treatment projects • develop and evaluate the characteristics of industrial wastewater • reproduce and apply essential process techniques and relevant de-sign parameters • understand and reproduce newer technological developments (ZLD, membrane technology) • verify and reproduce co-fermentation technologies and practice examples • reproduce evaluation options for residues from industrial wastewater treatment • render simple optimization options for the energy efficiency of industrial wastewater plants

Prerequisites	None
Recommended reading	Gujer: Siedlungswasserwirtschaft Gujer: Systems Analysis for Water Technology
Teaching methods	Seminars, module-related tutorial
Assessment methods	Written exam, 90 minutes (PL)
Language of instruction	English
Name of lecturer	Prof. Dr.-Ing. Peter Hartwig
Email	hartwig.peter@web.de
Link	https://www.hs-bremen.de/mam/hsb/fakultaeten/F2/U/u5.3_iwwm_industrial_wastewater_management.pdf
Course content	<p>The following topics are covered in the module:</p> <ul style="list-style-type: none"> • Structuring projects for industrial wastewater treatment • Legal requirements • Process techniques for pre-treatment and complete treatment of industrial wastewater • Zoo Liquid Discharge (ZLD) technologies • Co-fermentation of organic residues • Carrying out experiments on a laboratory and semi-technical scale • Realization of wastewater plants • Operating experience of industrial wastewater plants