



AE2303 Reduktion av avloppvat- tenreningens bidrag till global uppvärmning 6,0 hp

Reduction of Wastewater Treatment Contribution to Global Warming

När kurs inte längre ges har student möjlighet att examineras under ytterligare två läsår.

Fastställande

Kursplan för AE2303 gäller från och med HT10

Betygsskala

A, B, C, D, E, FX, F

Utbildningsnivå

Avancerad nivå

Huvudområden

Miljöteknik

Särskild behörighet

The course is addressed to students studying civil engineering or environmental engineering that specialize in wastewater treatment. At least three years of academic studies. Documented proficiency in English B or equivalent.

Undervisningspråk

Undervisningspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

Lärandemål

The major objective of the course is to provide the course participants with the knowledge and the practical skills that could be used in designing, managing and evaluating of modern wastewater treatment plants in order to minimize their impact on environment and on climatic changes. The specific objectives include:

- making the student to realize that the combined effect of “small” emissions from a number of wastewater treatment plants can noticeable contribute to the global environmental pollution and ultimately to global climate change and that EU-wide cooperation in this area is necessary;
- showing the students that if the commonly used wastewater and sewage sludge treatment technologies are optimized, improved or replaced with other more sustainable technologies the pollution emission to the environment can be reduced and teaching them how to achieve this;
- showing the students that implementation of sustainable management systems supported by appropriate automation, integrated control, monitoring, and computer simulation to the existing treatment processes can result in reduction of environmental pollution and teaching them how to achieve this;
- teaching the students how to evaluate and assess the wastewater and sludge treatment processes and technologies from the sustainable development standpoint.

Kursinnehåll

The course's leading topic is the reduction of wastewater treatment contribution to global warming by controlling of gas emissions from wastewater treatment and sludge processing. The course will be offered to the group of students from Italy, Poland and Sweden. The course will utilize the most effective teaching techniques with peer learning being the core didactical approach used during the course. This will be supplemented by lectures given by an international team of academic teachers and professionals in the following subjects; Global climate change, Wastewater treatment, Interactions between wastewater treatment plant and the environment, Monitoring, control and automation at wastewater treatment plants, Integrated control of wastewater systems, Environmental impact assessment, Sustainable environmental management.

Kurslitteratur

The course material will be distributed at lectures.

Examination

- PRO1 - Projektuppgift, 1,5 hp, betygsskala: A, B, C, D, E, FX, F
- SEM1 - Seminarium, 1,5 hp, betygsskala: A, B, C, D, E, FX, F

- TEN1 - Tentamen, 3,0 hp, betygsskala: A, B, C, D, E, FX, F

Examinator beslutar, baserat på rekommendation från KTH:s handläggare av stöd till studenter med funktionsnedsättning, om eventuell anpassad examination för studenter med dokumenterad, varaktig funktionsnedsättning.

Examinator får medge annan examinationsform vid omexamination av enstaka studenter.

Etiskt förhållningssätt

- Vid grupparbete har alla i gruppen ansvar för gruppens arbete.
- Vid examination ska varje student ärligt redovisa hjälp som erhållits och källor som använts.
- Vid muntlig examination ska varje student kunna redogöra för hela uppgiften och hela lösningen.