CASE STUDY

BIOLOGICAL WASTEWATER TREATMENT UNDER ANAEROBIC CONDITIONS

At the beginning of the case study, students will start with the poster of the wastewater treatment plant (targeted mainly on the anaerobic part of the treatment process) and play a little game of “what belong where”. Subsequently, students will be divided into two groups and work on two sites.

1) Site 1 – Reactor assembling + Biogas composition analyses

Desulfurization of biogas and biomethanization will be describe in detail. Students will be fully acquainted with technologies of sludge managements and hot topics of this field of study. They will see how to sample biogas and how the measuring of biogas on gas chromatography looks like. They will see the lab models of fermenters and at the end, they will try to build they own reactor in a small competition.

2) Site 2 – Grey water system + Nitrogen analyses

Wastewater coming from showers, bathtubs and bathroom sinks is referred to as greywater. Because of its mild pollution it can be successfully treated and reused for toilets flushing leading to considerable saving of potable water. In the case study, the real functional system for treating greywater in the apartment building will be presented and the samples from different points of the treatment technology will be used for analyses of nitrogen system (nitrates, nitrites and ammonia).