

Conceptual Design (Assessment 1, 20%)
CL978: Water & Wastewater Treatment Design
CL420: Water Engineering II



Due Friday 11:59pm, 12 February 2016
Online submission via MyPlace (only)

Develop a case study for the development of a wastewater treatment strategy in a city that has been assigned to you; the cities are specified in MyPlace. State your assumptions clearly. Based on the needs of the area, conceptualise what type of wastewater treatment system is needed; assuming that a new one is needed.

- What type of facility will they need? You will not know specific design terminologies, but you can make some descriptive generalisations. For example, you can research what kind of wastewater treatment types exist (and critique its effectiveness/appropriateness), or even look up existing strategies in areas of similar population size and economy.
- What are the important factors that influence design? Population, climate, socioeconomic, geography, any industry, etc.
- What are the important parameters for design? Which constituents of the wastewater must be considered and/or monitored during treatment. Are there any regulations? If not (or could not find any), base it on EU directives.
- Could any by-products of wastewater (e.g., water, sludge, or gasses) be used for other reasons (irrigation, bio-gas, fertiliser, etc)?

Maximum 5 pages in length, excluding references and diagrams/figures. Use the Harvard Style for reference formatting. Double-space, 12 pt font (please).

Coursework expectations:

- Treat it as if you are proposing an idea to upper management/investors. Demonstrate knowledge, capability, and whether the technology is a sustainable solution. The argument must be convincing with sufficient justification and evidence (but not too much to lose focus in details).
- Wastewater treatment provision in foreign countries is a very broad topic. This assignment was intentionally vague to allow you to explore possibilities/potential interests.
- The assignment is rather short. The reason for this constraint is to maintain focus. Generally, a 5 page paper on a technical subject is much more difficult to write than a 20 page paper. The length constraint forces efficiency. It means you need to identify the essential points and eliminate nonessential points. This is an essential skill to have when you leave university. Besides, upper management often does not have time (nor the attention span) for lengthy manuscripts.