COURSE CO-ORDINATOR:  Dr Ajit K Sarmah (Rm 1.709, ext. 89067)
E-mail: a.sarmah@auckland.ac.nz
Office hours: Mon. 9-10 am

OTHER THEACHING STAFF:  Dr. Takis Elefsiniotis (Rm 1.1014, ext. 88767)
E-mail: t.elefsiniotis@auckland.ac.nz
Office hours: Mon. 9-10 am

TIMES:  LECTURES:  Mon. 1-2 am  Rm LIBB28
         Tue. 1-2 pm  Rm LIBB10
         Thurs. 1-2 pm  Rm 1.439
TUTORIALS:  Fri. 1-2 pm  Rm 1.439
TOTAL:  48 contact hours + 2 laboratories

FORMAT:  Lectures:  Theory plus illustration problems
Homework:  Assignments (assessed), review problems (not assessed)
Tutorials:  Interactive problem solving (bring class notes).
Laboratories:  Group activities

FINAL EXAM:  3-hr exam

PHILOSOPHY AND PURPOSE:
To provide an introduction to:
- The interdisciplinary nature of environmental engineering.
- Determining the characteristics of surface water, wastewater, and treated water.
- The unit operations and processes in drinking water and wastewater treatment.
- Solid waste management.
- Relevant legislation in NZ.

LABORATORY:
LAB 1: Solids and Organic Matter Determination
LAB 2: Chemical Coagulation Process

All experiments will be conducted in the Environmental Engineering Laboratory (Room 4.518 Engineering Building) at the time specified in the lab schedule distributed to you. All students must attend labs and submit a report for each experiment conducted in the laboratory. Safety note: you must wear closed-toed shoes (i.e. no jandals or similar). You will be asked to leave if wearing inappropriate shoes.

ASSESSMENT:  2 Lab Reports  15%
              2 Assignments  10%
              Test  20%
              Final Exam  55%
LEARNING OBJECTIVES:
A student who successfully completes this course will:
- Understand underlying chemical principles and concepts in environmental engineering applications.
- Develop a working knowledge of the relevant vocabulary.
- Familiarise with fundamental quantitative analytical procedures commonly used in practice.
- Be able to perform preliminary design of municipal infrastructure with respect to drinking water treatment, wastewater treatment, and solid waste management;
- Understand basic water quality parameters and their effects on humans and the environment;
- Understand various pollutant removal mechanisms and link the pollutant types to treatment processes and unit operations;
- Be able to derive and apply mass balance and kinetic reactions;
- Become familiar with basic laboratory techniques relevant to environmental engineering;
- Understand lab safety;
- Become familiar with issues regarding resource management and resource consenting.
- Be able to identify emerging challenges and opportunities for environmental engineers.
- Develop note-taking skills.
- Develop data analysis and interpretation skills.

COURSE OUTLINE:
See attached planner. Please note the planner is considered a guide. Dates of specific topics may change as the course progresses.

TEXT BOOKS:
Lectures are intended to be supplemented with independent study in text books. The Engineering Library holds several short loan copies of the prescribed text:

Also recommended:

OTHER COURSE MATERIALS:
Lecture materials, tutorials, lab instructions, and assignments will only be made available via Cecil. Hard copies will not be distributed, unless in exceptional circumstances. Lecture notes should be available at least two days in advance of the lecture.
POLICY ON OUT-OF-LECTURE SUPPORT:

This policy is how we will manage out-of-lecture contact for EnvEng 244 and will not necessarily apply to other courses in the CEE Department or Faculty of Engineering.

Office Hours

Both Ajit and Takis will be available Monday 2-3 pm and Wednesday 1-2 pm in their office. Students who turn up outside these hours will be directed to come during these times or make an appointment. In addition, Ajit or Takis will be available for help during their respective tutorial sessions.

Office hours for lab tutors will also be set once the overall lab schedule is published. Students are strongly encouraged to talk directly with the tutors on any questions related to the lab or lab report. Students are welcome to consult with any of the lab tutors – you are not limited to help from the specific tutor who conducted your lab.

Email

All emails should be written in a professional manner correctly formatted with a subject, greeting, body text and signature. Replies will not be sent to messages improperly composed. Please take care to remember attachments and any other relevant information.

Emails sent from hotmail or other “free” systems are typically unreliable. We will rely on your University of Auckland email for most communications, as per the University’s policy.

Questions sent to us by email on coursework or lecture material will not be answered. These questions must be asked in person either during lectures, office hours, or tutorials. Queries on other matters will be acknowledged within 24 hours, Monday-Friday.

Phone

Available during office hour; however, first priority will be given to persons who turn up at our offices in person, i.e. you may be asked to call back when/if someone is present.