ENEN90037 International River Basin Management

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: June, Parkville - Taught on campus. This subject consists of one week of intensive indoor activities, and 3 days to one week of field work in the Yellow River Basin, China.
Time Commitment:	Contact Hours: 54 hours (Lectures and Tutorials: 30 hours; Field Work: 24 hours) Total Time Commitment: 200 hours
Prerequisites:	Enrolment in this subject requires subject coordinator permission. Application for this subject should be sumitted via email before 15th June. This subject has limited student numbers.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Assoc Prof Michael Stewardson
Contact:	**mjstew@unimelb.edu.au (mailto:mjstew@unimelb.edu.au)**
Subject Overview:	**AIMS** River basins, where human civilisation comes from, are challenged by increasing population pressures, rapid urbanization and climate change impact. A river basin is a semi-closed ecological and economic system, representing logical management units of the water cycle, throughout which all decisions and actions have interdependent ecological, social and economic implications. Thus, river basin management needs interdisciplinary knowledge. This subject aims to equip tomorrow's water managers with the adaptive approach by linking cutting edge knowledge to stress-tested practices in river basin management. This subject consists of one week of intensive indoor activities and 3 days to one week of field work in China. One week intensive indoor activities include: # 15 knowledge-driven lectures across science, engineering, technology, policy, government and law related to river basin management # 5 practice-driven panel discussions in the above areas by comparing the practices in the Murray Darling Basin in Australia and the Yellow River Basin in China # 5 practice tutorials demonstrating some real cases in river basin management. In the second week, students have a three-day field visit to the Yellow River Basin, China. Students are responsible for the cost of travel, accommodation and food. Subsidization may apply.

Learning Outcomes:	**INTENDED LEARNING OUTCOMES (ILOs)** This subject aims to equip students who are interested in environment and natural resource management with a whole-of-system approach in managing a co-evolved social-ecological system-river basin. It helps students with engineering background and interest to understand how their engineering knowledge and skills contribute to a real co-evolved social-ecological system. Specifically: 1 Describe river basin management as a complex system of interactions between the diversity of disciplinary knowledge 2 Compare the historical development of large multi jurisdictional river basins from an economic, social and environmental perspective 3 Identify links between the historical development and the management challenges facing the current generation of river basin managers 4 Describe the actions designed to balance economic development with the ecological and social wellbeing in a river basin 5 Critique the policy and other reforms designed to solve a range of river basin management challenges 6 Create new solutions to particular contemporary river basin management challenges.
Assessment:	Group oral presentation on the learnings from these two week' lectures and visits (30%) requiring approximately 30 hours of work, due within the first two weeks of classes. Intended Learning Outcomes (ILOs) 1 to 3 are addressed in this presentation Write a 2000 word essay (30%) comparing, and contrasting the water sharing agreements for the Murray Darling Basin, the Yellow River Basin and the Colorado, including the strengths and weaknesses of these agreements in the event of prolonged droughts. Requiring approximately 54 hours of work, due two weeks after classes finish. ILOs 2, 4 and 5 are addressed in this essay A Group project of 6000 words (40%) describing the conflicts of interest in managing a river basin and analysing in detail 2 conflicts from the list, reviewing what might be done to manage these conflicts of interest and creating a new solution to a contemporary river basin management challenge, each student writing about 1500 words. Requires approximately 60 hours of work, due 4 weeks after classes finish. ILOs 4, 5 and 6 are addressed in this project.
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	# Ability to undertake problem identification, formulation, and solution # Ability to utilise a systems approach to complex realities # Field work skills # Cross-cultural communication and research skills # Research Project design # Teamwork.
Related Course(s):	Master of Environmental Engineering
Related Majors/Minors/ Specialisations:	Integrated Water Catchment Management Integrated Water Catchment Management Master of Engineering (Civil) Master of Engineering (Environmental) Tailored Specialisation Tailored Specialisation