



IDS 210 Intercultural Engineering

Course description:

This complementary studies course examines the role of culture and language in technology and engineering projects, including international development projects. Engineering case studies will be used to analyze the ways in which non-technical considerations may affect project success or failure. Dynamics of diverse and multicultural engineering teams, the use of engineering standards, intercultural communication, appropriate technologies, social entrepreneurship and humanitarian engineering will be examined.

Instructor:

IDS 210 is an interdisciplinary course and the course materials are drawn from many domains. The content includes contributions from faculty in anthropology, social science, sociology, geography, psychology, global studies, engineering and English as a second language. The lead instructor is Joyce van de Vegte, M.A.Sc., of the Electronics & Computer Engineering Technology department.

Course schedule:

IDS 210 is offered as a fully-online course on the semester system. An invigilated final exam is required.

Course readings:

Course readings, references and content will be provided online using D2L.

Learning outcomes:

Upon successful completion of this course a student will be able to:

- Analyze cultural context in engineering case studies.
- Recommend strategies for successful intercultural communication.
- Create a communications brief for an intercultural engineering project.
- Define and give examples of “social entrepreneurship.”
- Judge the appropriateness of a technology in context.
- Explain how engineering standards and cultural perspective may contribute to intercultural technology use.
- Analyze the impact of non-technical considerations on the engineering design process.
- Formulate guidelines for success for multicultural engineering teams.
- Explain the roles of engineers and technologists in UN and NGO development projects.

Course topics:

Course Introduction	1 week
Culture and Diversity	2 weeks
<ul style="list-style-type: none">▪ Definitions of culture▪ A multicultural engineering workplace▪ Dimensions of culture and diversity▪ Generalization vs stereotyping	
Intercultural Engineering Projects	2 weeks
<ul style="list-style-type: none">▪ Cultural intelligence▪ Engineering education▪ Responding to cultural differences▪ Target country knowledge▪ Communication and culture▪ English use and translation in technical projects▪ Multicultural engineering teams	
Intercultural Engineering and Technology Use	2 weeks
<ul style="list-style-type: none">▪ The movement of technology▪ Technology and engineering standards▪ Appropriate technologies▪ Sustainability in engineering projects	
Humanitarian Engineering	2 weeks
<ul style="list-style-type: none">▪ Human development indicators▪ Engineers and technologists and social responsibility▪ Engineering and technology roles in NGOs and the UN▪ Rights-based approach to development▪ Social entrepreneurship	
Engineering and Technology Intercultural Case Studies	2 weeks
<ul style="list-style-type: none">▪ The engineering design process▪ Engineering and technology professional organizations▪ Intercultural case study examples▪ Context for engineering design	
Final examination	1 week