Course proposal to IMAGE, Università degli Studi di Padova
in support of candidature for visiting professor

Solid Waste Management in Developing Countries

(course not yet defined on IMAGE website)

Italian Title	Gestione dei rifiuti solidi per paeses in sviluppio
Language	English
ECTS	6
Course type	Second Cycle Degree (Master's Level) – Advanced Course
Period	Spring Semester 2010
Scope and form	Lectures, research exercises, research presentations with debate, term project, technical visits
Course duration	13 weeks
Type of assessment	Several written assignments during the semester and evaluation of oral and written presentation of term project
Exam duration	40 minutes for oral term project presentation
Aid	Virtual reading material indicated
Prerequisites	Admitted to Master's program
General course objectives	Provide an understanding of the repercussion of international environmental agreements on urban sanitation requirements, and of realistic waste management strategies for emerging economy contexts.
Learning objectives	A student who has met the objectives of the course will: be knowledgeable on the demands placed on municipal administrations by international environmental agreements be able to develop spreadsheets for annual progress targets implied in those agreements understand the fundamental difference in waste management challenges between industrialized and emerging economies be knowledgeable on reverse logistics operations in emerging economies appreciate the necessity of creating the correct

incentives for the private sector to prosper in the recycling business

understand the fundamental difference between urban sanitation targets and urban sustainability

be able to develop realistic waste management strategies for emerging economy contexts with the correct application of scarce public funds

know how to create proactive legal instruments in support of those management strategies

eliminate the landfill as central system component of a waste management model

Content

International environmental agreements and world summit directives related to urban sanitation. Resource arithmetic as a tool to meet, at the local level, targets set out by summit directives. Key component procedure for relating waste composition to geographical location. Anticipation of future summit directives through spreadsheets. Reverse logistics realities in emerging economies. Correct allocation of public funds within municipal waste management schemes. The waste composition paradigm and pragmatic landfill diversion targets. A learning curve for lay populations. Specific requirements for handling and diverting from the landfill biodegradable waste components. Development of scoring guides for merchants in the food marketing chain to reduce losses. Creation of proactive legal scriptures to support municipal waste management strategies.

Course Resources

Course material:
Trends in Conservation and Recycling of Resources, chapter 8, *Presenting Resource Arithmetic: A Discipline of the World Summit Era.* Nova Science Publishers, New York, 2007, 327 pp. ISBN 13 978 1 60021 124 9. http://www.novapublishers.com/catalog/product_info.php?products_id=4377

Waste Management: Research, Technology and

Developments, chapter 4, *On Innovation of Waste Management Philosophies in Emerging Economy Contexts*. Nova Science Publishers, New York, 2009, 384 pp.
ISBN 978 1 60456 256 9.
https://www.novapublishers.com/catalog/product_info.php?products_id=6791

Course reading:
http://www.un.org/esa/devagenda/
http://www.un.org/esa/sustdev/documents/agenda21
http://www.un.org/millenniumgoals
http://www.un.org/jsummit >report of the WSSD (173 pp.)
http://www.un.org/summit2005

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Key words International environmental agreements, landfill diversion of waste, municipal solid waste, reverse logistics, waste composition, waste management in emerging economies.