7th International Seminar in Sustainable Technology Development

UPC, Vilanova i la Geltrú, 9th-20th June 2014

http://is.upc.edu/seminaris-i-jornades/seminaris/std-2014
The Idea

UPC organizes the 7th edition of the **International Seminar on Sustainable Technology Development**, again of two weeks' duration, with the aim of bringing together the field forefront experts and Master students in sustainability.

The course is organized in the framework of the UPC Master in Sustainable Development, and aims to connect experts, future researchers and policymakers on real topics where long-term technological systems renewal is needed in order to fulfill sustainability requirements.

Experts will find an opportunity to network and exchange their visions with other experts, share them with highly-motivated students and influence policies towards sustainability.
Objectives

• To increase the **understanding of sustainable development in the long term** and the role of **technology therein embedded in systems**
• To increase the **capability to apply foresighting, forecasting and backcasting**
• To contribute to the **development of scientific work competencies** of students
• To increase the **capability of teachers to teach the approach of future imaging, foresighting, forecasting and backcasting**
• To become an **experts’ meeting point** and create **networking activities** among different groups and institutions
The Conceptual Approach

BACKCASTING: The Natural Step approach

1. Defining criteria for sustainability
2. Describe present situation in relation to the criteria for sustainability
3. Envision future solutions
4. Finding strategies towards sustainability

[Holmberg and Robèrt, 2000]
The Conceptual Approach

BACKCASTING: The “Dutch” approach

1. Strategic problem orientation
2. Vision of the future
3. Backcasting
4. Action plan
5. Implementation & Follow-up
The Learning Environment

Problem-Based Learning approach

- Transdisciplinary
- International
- Intercultural
- Intergenerational
Participating Universities

- **UPC Barcelona Tech** (Master in Sustainability, Master of Environmental Engineering), Barcelona, Spain
- **Delft University of Technology** (Master in Industrial Ecology), Delft, Netherlands
- **Chalmers University of Technology** (Master in Industrial Ecology for a Sustainable Society, Master in Sustainable Chemical Processes), Goteborg, Sweden
- **Royal Institute of Technology, KTH** (Master in Sustainable Technologies), Stockholm, Sweden
- **Graz University of Technology** (Master in Sustainable Development), Graz, Austria
- **University of Maribor** (Master in Food Safety in the Agrofood Chain), Maribor, Slovenia
- **The Parthenope University**, (PhD Program in Environment, Resources and Sustainable Development), Naples, Italy
The Course Organisation: Students

- Total of 25-30 Master students
  - 10 students from UPC
  - 15-20 students from partner universities (3-4 from each)

- Participation at STD = 5 ECTS = 150 h of work
  - 65 h previously (individual and group work)
  - 80+5 h at the Seminar

- For more information, visit:
  http://is.upc.edu/seminaris-i-jornades/seminaris/std-2014
The Course Organisation and Collaborators

- UPC Barcelona:
  - Coordinator, IS.UPC: Jordi Segalàs Coral

- Organisation team, IS.UPC:
  - Gemma Tejedor, Jane Feeney, Ana Andrés

- Visiting lecturers (financed by an Erasmus Intensive Programme):
  - TUDelft, The Netherlands: Kas Hemmes TBC
  - Chalmers TBC, Sweden: Magdalena Svanström, Oskar Englund
  - TUGraz, Austria: René Kollmann
  - KTH, Sweden: Monika Olsson, Kate Pereverza
  - Universa v Mariboru, Slovenia: Franc Bavec
  - Uni Parthenope, Italy: Maddalena Ripa, Silvio Viglia

- Collaborators (lectures, dialogues, case studies):
  - Clean Clothes Campaign: Albert Sales
  - UPC-Terrassa: Enric Carrera
  - TBC
Every year, a **real & hot topic** is chosen to give context to the participants’ work.

In 2010, the topic was overfishing and marine ecosystem degradation.
In 2011, the topic was the mobility concept and global transport.
In 2012, the topic was agroecology and the alimentary model.
In 2013, the topic was sustainable energy systems and participation.
In 2014, the topic is sustainable clothing.

The idea is to study the whole chain of the clothing industry (production, distribution and consumption) focusing on **how society can design, promote and demand sustainable and ethical ways of producing and consuming clothing**.

The aim is to explore whether the real sustainability changes come from creativity, transdisciplinarity, systemic and critical thinking and to incorporate ethical considerations into the consumption of clothing. The technological solutions in this context must address a trade-off between localisation and delocalisation of the global fashion industry.
Relevant questions:

- **What is** sustainable clothing/fashion? What specific requirements make a clothing company ‘sustainable’?
- **Why should we have** sustainable clothes?
- How is it possible to attain a **cultural shift in consumption**? What is the impact of perceived obsolescence in the clothing culture?
- **What factors prevent** the ethical clothing market from booming and expanding? Why does it remain a niche in the clothing market?
- Who are the key stakeholders involved? **What is/should be their role** in creating a more sustainable garment industry?
Schedule Overview

**Phase 1: Virtual**

Participants will work in the virtual phase on two main activities:
1. Work in local universities groups: Poster on Local Situation Analysis
2. Work in international groups: Report on Case Study

**Phase 2: Presentia**

Future Orientation
STD Seminar

**Phase 3: Evaluation**

Individual Evaluation

**Timeline**

- **22/04**: Working Plan deadline
- **06/05**: Reference Reports deadline
- **27/05**: Final Report on Study Case deadline
- **20/05**: POSTER deadline
- **9/20 June**: End of phase
Phase 1. Local Situation Analysis

POSTER Assignment
You will have to develop a poster: Deadline 20 of May 2014
Work in groups with students from your university (except UPC, divided into 4 groups)
  • Synthesize your ideas in a poster
  • Estimated individual work load: 35 h
  • Questions? E-mail (both, please): std.is@upc.edu, gemma.tejedor@upc.edu

TASKS
Analyse the current situation of sustainable clothing culture (consumption, production, distribution, etc.) in your region/country. Answer the following questions:

  • What is the current situation of sustainable clothing in your region?
  • Are there any local/community initiatives?
  • Do you know about any initiatives from your region, and if so, are they successful? Why or why not?
Phase 1. Case Study

Work in inter-university groups of 4-5 people (group members will be assigned according to teambuilding criteria)

- Two case studies: Local/Global – “Developed”/”Developing” region.
- Estimated individual work load: 40 h
- Supervised by UPC and home universities

**TASKS**

You will have to develop 3 assignments on one case study (instructions will be delivered during the week of 18/03):

- Working plan (Deadline: 22 April 2014)
- References (Deadline: 6 May 2014)
- Report (Deadline: 27 May 2014)
Phase 2. Seminar in Vilanova

- Dates: From 9 to 20 June 2014
- Estimated individual work load: 80 h
- Intensive Programme Erasmus is contributing to flights (75%) and accommodation for participants during the Seminar
- Team-building among students
  - Students arrive on Sunday 8th
  - Social activities during the weekend

**TASKS**

- Presenting posters (local groups)
- Sharing the groups analysis (international groups)
- Stakeholders interaction
- Backcasting & Scenario building
- Solutions development & discussion
Phase 3. Individual Evaluation

- Individual evaluation & feedback
- To be submitted before 24th June
- To be developed during the presential weeks
- Estimated individual work load: 5 h

**TASKS**
- What have I learnt? (essay)
- Assessment on STD organisation, contents, etc.