Mitigation Enabling Energy Transition in the MEDiterranean region

Sustainable Construction in Mediterranean Climate

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The MOOC’s objectives

- Acquire a global vision of the eco-construction approach in the Mediterranean climate through a synthetic overview of the eco-construction training;
- Establish the main concepts and define a common term within the profession.
- Make people want to build ecologically through several examples

Mots clés: Sustainable construction, passive building, bioclimatic, life cycle, energy efficiency, Negawatt approach, life cycle analysis, grey energy, natural resources, deconstruction, global cost.
The target audiences are:

- project owners,
- architects design offices
- and companies.

Remaining on a generalist register, other more specialised MOOCs will complete and develop the fields and disciplines to be mastered in the context of eco-construction.
Eco-construction or sustainable construction: minimising the environmental impact of a building over its life cycle requires:

- Designing the envelope according to a bioclimatic approach to meet the comfort needs of the occupants, using local natural resources as much as possible;

- Controlling energy consumption for each use of the occupants (Négawatt approach) but also the energy used to construct the building by favouring bio-based materials (LCA), i.e. over the life cycle of the building;

- Making choices and trade-offs guided by a global cost approach and not just the initial investment.
1st Week – Building with the climate: scope in tropical humid zones

• Parameters of comfort
• Building practices: learning from the past
• Challenges of building in tropical humid zones
• Designing buildings to suit the local climates
• Minimizing internal heat loads
• Strategy to design buildings for the future
• Life cycle impacts of buildings

2nd Week – Approaches and methodological steps

• Urbanism and sustainable neighbourhood design
• Climate responsive building design
• Design methodologies for naturally conditioned buildings
• Lowering embodied energy in buildings
• Highly adapted design in constrained environments
• Optimizing energy use in buildings
• The overall cost approach applied to buildings

3rd Week – Feedback from experiences and the role of building users

• The role of stakeholders in the construction chain
• Client-side planning
• Key role of building occupants
• Computer tools to assess building energy performance
• Sharing experiences of low-energy buildings
### Format:

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<th>Week</th>
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<tr>
<td>1st Week – Building with the climate: scope in tropical humid zones</td>
<td>8 videos&lt;br&gt;1 video + forum</td>
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<td>2nd Week – Approaches and methodological steps</td>
<td>8 videos&lt;br&gt;1 video + forum</td>
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<td>3rd Week – Feedback from experiences and the role of building users</td>
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Module 1
- Introduction générale
- M1 Construction durable?
- L'analyse cycle de vie
- Le contexte climatique
- Le confort hygrothermique
- Le confort global
- Problèmes des ressources
- Conclusion du module 1
- Quiz 1
- Le projet Fil Rouge Ep 1

Module 2
- M2 L'urbanisme
- L'approche bioclimatique
- Le confort thermique
- Climatisation naturelle
- Climatisation artificielle
- Optimisation énergétique
- Application de l'ACV
- Conclusion du module 2
- Quiz 2
- Le projet Fil Rouge Ep 2

Module 3
- M3 Approche en coût global
- Le rôle des intervenants
- Planification côté MOA
- Reportage en Guyane
- Le rôle clé de l'usager
- Reportage à La Réunion
- Conclusion générale
- Quiz 3
- Le projet Fil Rouge Ep 3
- Classes virtuelles
- Espace commentaires
Bienvenue dans le MOOC "Construire durable en zone tropicale humide" !

Avant de rentrer dans le vif du sujet, nous vous proposons de regarder la vidéo d'introduction au MOOC. Cette vidéo sera l'occasion de vous expliquer le contexte de cette formation, le plan de la formation, ses objectifs et les modalités pédagogiques que vous découvrirez dans ce MOOC.

Autres accès : www.solener.fr
Mediterranean climate(s)?
Methodological approaches
Contact us!

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Together We Switch to Clean Energy

For any inquires or comments, please don’t hesitate to contact us
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