

Urban Design Studio for Energy Efficient Campus Design and Management

25th -26th April 2016

Anton de Kom University of Suriname

Suriname



U Universiteit
Antwerpen



blueSpace
Caribbean Network for Urban and Land Management



EDU/INK

Urban design studio for energy efficient campus design & management

Workshop Outline

Background

This workshop came about as one of the outcomes of the EU-ACP EDULINK II project entitled “Mainstreaming Energy Efficiency and Climate Change in Built Environment Training and Research in the Caribbean” (*CarEnTrain*). The project objective is to improve energy security and climate change impact mitigation strategies by influencing the way energy efficiency and climate change is handled in education and training. This specifically focusses on the fields of Urban and Transportation Planning, Engineering and Architecture at regional Higher Education Institutes (HEIs).

This is the second Urban Design Workshop to be held and it builds off the first workshop which was held at the Sir Arthur Lewis Community College (SALCC) in Saint Lucia prior to CUF 5.

Target audience:

- students in built environment
- professionals in built environment (architects, urban planners, construction engineering)
- teachers in the built environment
- campus managers

Learning objectives:

- develop an understanding of Urban Design and Urban Design theories as a field of study,
- apply urban design thought and theories in analyzing urban places,
- have both theoretical and practical knowledge and insights in sustainability and in particular energy efficiency
- understand the relation between built form and energy consumption
- be able to use ‘Sustainable Design Support Tools’ as a means to facilitate design and management,
- analyse existing spatial structures and identify problems regarding energy efficiency
- formulate urban design strategies and management interventions to reduce energy consumption levels

Objectives will be achieved by online learning and a two-day classroom training.

Details (for classroom training)

Date: Monday 25th - Tuesday 26th April, 2016

Venue: Anton de Kom Universiteit Suriname (AdeKUS), Paramaribo, Suriname

Cost: US\$80

For further information and to register contact Nika Maingot at namaingot@gmail.com or 1-868-662-2002 ext. 83682.

Online learning:

The urban design studio for energy efficient campus design & management commences with a structured online learning before the actual workshop. Delegates will be required to study theoretical aspects and prepare an assignment. They will be led on a journey into theoretical principles which will gradually build their knowledge, preparing them for the classroom training.

Online learning content:

Module A: URBAN DESIGN

This aspect of the workshop will explore the forces and ideas which have shaped the urban landscape using the theories, principles and practices of urban design. It will demonstrate how, through the analysis of select university campuses, towns and cities, urban design impacts the social and economic development of urban spaces and places, particularly around issues relating to energy efficiency and climate change in small island developing states.

A number of delivery strategies will be utilized to create an environment where information can be shared among participants. Concepts will be illustrated by a combination of visual, mapping and diagrammatic means. Various university campuses will be introduced and analyzed for their spatial design and social and economic relationship with the towns and cities in which they reside.

Unit 1: Introduction to Urban Design

- 1.1 Definition of Urban Design
- 1.2 Purposes of Urban Design
- 1.3 The roles of Urban Designers
- 1.4 The Urban Design Process
- 1.5 Urban Design within the Built Environment profession

Unit 2: Theories of Urban Design and Spatial Design

- 2.1 Figure-Ground Theory
- 2.2 Linkage Theory
- 2.3 Place Theory

Unit 3: Urban Design Strategies

- 3.1 Infill, Modification and Recycling
- 3.2 Generating Alternatives
- 3.3 Collaboration
- 3.4 Interconnectivity
- 3.5 Economic and Political Factors
- 3.6 Preservation
- 3.7 Sustainable Protection

Workshop writer / developer: Jacqueline Douglas Brown - University of Technology, Jamaica

Module B: THEORY OF AND PROCESS TO SUSTAINABILITY / ENERGY EFFICIENCY

This part of the workshop introduces the aspect of energy efficiency within the overall quest for sustainable urban design and management. Based on the principles of a sustainable development, knowledge and insights are provided regarding sustainable building, environmental sustainability and ultimately energy efficiency. The latter will closely be related to comfort.

In addition to the introduction of a design strategy for efficiency, specific focus is on the design praxeology for achieving sustainable, energy efficient, successes in the built environment. Here, 'Sustainable Design Support Tools' (SDSTs) are placed central as researchers and practitioners have acknowledged their importance and necessity in order to create efficient and effective design and management processes. An overview of kinds of tools and illustrative implementations will demonstrate that SDSTs are a powerful leverage towards energy efficiency in the built environment.

Unit 1: Introduction to sustainability / energy efficiency

- 1.1 Sustainable development
- 1.2 Sustainable building
- 1.3 Energy efficiency
- 1.4 Design strategy for efficiency
- 1.5 Specific topic: Urban form and travel behaviour

Unit 2: Design support tools for sustainability / energy efficiency

- 2.1 Classification of kinds of tools
- 2.1 A system thinking design process integration
- 2.2 Illustrative implementation

Workshop writer / developer: Bart Janssens and Tom Coppens – University of Antwerp, Belgium

Module C: GENERATIVE INSIGHTS BY CASE-BASED FINDINGS

This module demonstrates strategies in design and management by discussing real-life best practices and theoretical-designer retrofits for energy efficiency. Both address cases within the Caribbean context.

Unit 1: Generative insights – case study research

- 1.1 Generic references to knowledge bases regarding sustainability / energy efficiency
- 1.2 Discussion of, and references to, real-life best practices

Unit 2: Generative insights – test case research

- 2.1 Case I: SALCC (Sir Arthur Lewis Community College), Saint Lucia
(Outcomes from previous workshop)
- 2.2 Case II: AdeKUS (Anton de Kom Universiteit Suriname), Suriname
(Highlights outcomes from Master student work University of Antwerp)

Unit 3: Case study research (assignment by the participants)

Workshop writer / developer: Bart Janssens and Tom Coppens – University of Antwerp, Belgium

Classroom training:

Following the online learning phase, delegates shall attend 2 days of classroom based learning. Group learning activities and a 'hands-on' workshop will consolidate their understanding and newly acquired knowledge.

Classroom training content:

Day 1 (first half day)

- Quick overview/recap of the online learning content + Q/A + classroom discussion
- Presentation of the delegates' assignment + Q/A + classroom discussion

Day 1 (second half day) + Day 2

- Gained insights of module A, B and C will be illustrated and implemented on the campus of AdeKUS. This case will be analyzed and optimized during a 'hands-on' workshop.
- A site visit and discussion will unveil deficits after which participants make proposals for optimization during a 'trial & error' process. Group discussion will lead to refinement and adjustments, resulting in a list of possible actions and priorities for implementation (plan of action). This workshop focuses on three scale levels: the urban context, the campus site and the building. Outcomes of the workshop will be represented on CUF 2016.