2010 IARU GLOBAL SUMMER PROGRAM – **DRAFT** COURSE PROFILE

Host University	ETH Zurich, Swiss Federal Institute of Technology Zurich
Course Title	Visualizing and Simulating Future Cities
Teaching Staff	Prof. Dr. Gerhard Schmitt, Dr. Remo Burkhard, Jan Halatsch, Antje Kunze, Christian Schneider, Stefan Müller Arisona
Students must arrive by:	
First day of classes	
Last day of classes	
Further information (website URL)	www.ia.arch.ethz.ch

Course Description (approx 400 words)
This course description will appear on the IARU Website

You will design a future city – after learning new Urban Design Simulation instruments at the ETH Zürich Chair for Information Architecture.

The Chair for Information Architecture investigates visualization and simulation methods to develop seamlessly interconnected computer-assisted design and simulation processes. Research goals of the Chair are the fundamentals of knowledge visualization and the integration of simulations. The Chair's educational and practice goal is the design and simulation of sustainable future cities and to manage complexity.

The summer school provides step-by-step introductions to basic knowledge for visualizing city schemes through computer-based methods and field trips inside Switzerland.

The goal of the course is to familiarize the students with a novel, computer-assisted design process and test its application within the field of architecture.

Delivery method/course structure and contact hours
Please be as clear as possible about the style of course delivery (lectures, tutorials etc.), the course structure and contact hours

The two weeks will be divided into three modules with the following subjects:

Module 1: From human perception of urban qualities to interactive Multi-Touch-Table Applications
- Theory: Knowledge Visualization and Urban Scenario Planning
- Using the ETH Value Lab to comparing creative industries in Zurich and Singapore;
- Exploring, perceiving and mapping qualities in a new urban development area;
- Visualizing collected information in an interactive visualization on a Multi-Touch-Table;

Module 2: From computer scripts to a physical 3D objects
- Theory: Information Architecture
- Introduction to the Rhino / Grasshopper / Scripting;
- Generating spatial structures with generative scripts;
- Understanding how to materialize these spatial digital structures with Rapid Prototyping technologies;

Module 3: From reconstructing the future to simulating sustainable future cities
- Theory: Overview of urban modeling and urban simulation techniques;
- Understanding of the pros and cons of today's digital possibilities for urban design;
- Introduction to the City Engine software
- Adapting and expressing existing design intentions with these new methods;

This course will incorporate lectures and a range of other learning approaches such as peer learning, small group seminars, panel discussions, field trips and workshops.

Assessment details
Please provide as much detail as possible about the assessment expectations of the course (eg. 2 x 2000 word essay, each worth 25% of final award, 1x oral presentation, worth 20%, 1x Poster (20%) and participation in class activities/discussion (10%).

Planned assessment includes oral presentations, written case studies, and class attendance. A confirmation of the course will be issued on demand.

Pre-requisites /Target audience
Please be as explicit about the expectations (background/major, level (year), language skills, etc.) you would have of students participating in this course

For further information about the enrollment, please contact Dr. Angelika Wittek (angelika.wittek@rektorat.ethz.ch)

Accommodation description

Zurich Youth Hostel includes breakfast and is situated near the lake.
A number of cafes and restaurants are available on-campus that students may wish to utilize during this period at ETH Zurich Science City.

COSTS *Please indicate costs in local currency*		Notes
Tuition cost	Waived for students from IARU member universities	
Estimated Accommodation costs	Estimation: CHF 624.- in four-bed room, CHF 845.- in two-bed room (13 nights	
Field-trip costs (if applicable)	CHF 350.- plus city bus pass: CHF 100.-	

Estimated visa cost	Please contact your local embassy or consulate	
Estimated text book costs	N/A	
Estimated living expenses including meals	CHF 550.-	