

UNIVERSITY OF MARYLAND
School of Architecture, Planning and Preservation

Fall 2011

ARCH 170:

Introduction to the Built Environment

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Chesapeake Project Workshop:
Integrating Sustainability Across the Curriculum

ARCH 170: Introduction to The Built Environment is a CORE introductory course to conceptual, perceptual, behavioral and technical aspects of environmental experience, understanding and design. It involves and teaches methods of analysis, problem-solving, and project implementation. It's content includes an Introduction to the Built Environment as human habitat, the ecological relationships between people and environment and the practical and spiritual human needs the environment addresses. It also includes an introduction to the theory of understanding and designing of the Built Environment and to the terminology and technology related to it. Methods of graphic communication and design process, together with an overview of the relationship between architecture and the city are also part of the subject matter of this class.

The course is taught in 3 sessions per week – 2 lectures by the professor and one discussion session with a Teaching Assistant. There are four assignments and three exams throughout the semester and class participation and discussion are pivotal for the success of the course. Overall all, since it deals with the history, theory and relation between architecture and both the built and natural environment, the course already covers issues related to sustainability and green or ecological architecture. For example, we study concepts such as biomimicry and bioclimatic design, we discuss the work of green architects and theoreticians such as William McDonough, Janine Benyus, Ian McHarg, David Orr, James Wines and Ken Yeang – among others. We also present case studies of ecological buildings and discuss how and why their climatic and energy performance is important.

One of the questions discussed at the beginning of this program was how to add (more) sustainable-related content to an introductory course that already presents field-specific ecological issues to students? The answer, I think, came after our group discussions. It is clear that the contemporary human life-style has already damaged the Earth. And it is also true that solutions are being proposed and that these are not isolated or individual ideas. The entire planet is a living organism with a chaotic order structure, where for example, *the butterfly effect* – defined as the sensitive dependence on initial conditions; where a small change at one place in a nonlinear system can result in large differences to a later state – is a vital concept to understand. Following this premise, teaching and learning how to critically think about the relationship with our built environment and natural processes, becomes a priority. As part of this new way of addressing the same issues, design thinking and creative problem solving through an understanding of spatial and temporal devices used in architecture, become more important than just presenting information to students.

That said, I am planning to take a different approach to teaching sustainability in ARCH 170. For instance, besides exposing the students to a particular project and go through its characteristics and how the architect applied sustainable concepts, I am planning to expose them to life cycle analysis of buildings, objects and/or materials. This shift of strategy will allow them to learn thinking processes rather than information. They will be able to apply this not only to specific cases, but to new situations they might face in the future.

As part of the course content and of the sustainability lectures that I already teach, I plan to also use the Chesapeake Bay as a case study for these 'problem solving' exercises and show students how what they do everyday, impacts a broader region.

One of the concerns that I have always had, is how to impact students so they can make a decision on whether or not they want to embrace sustainable practices in their own lives. I am also planning to teach the real impact of such practices. I will do these in two ways. On one hand, I will start using digital tools to meet once a week. This way, many of the 250 plus students will not have to drive to campus one day of the week. In one of our lectures, I am going to show them how much energy we saved by just having one of the lectures through digital means. The second strategy will be to introduce digital instead of printed quizzes and again demonstrating the impact that this practice has.

Another thing I am going to do as part of this Fall semester - I plan to keep experimenting and adding sustainable issues every semester and sharing this with my colleagues - will be to include a couple of paragraphs in the syllabus where sustainability is explained in relation to the course. This will be reflected in the addition of 'sustainable-practices advise' throughout the different part of the syllabus. I will include the carbon footprint that each of the activities they do to come to class has on the planet.

With all of these changes, I intend to have both information and practical examples of the importance of sustainability in today's world.

As a final comment, I want to express my satisfaction with the course and its contents and my support for the Chesapeake Project at the University of Maryland. Not only was it a very rewarding experience, but also the collaboration and peer discussion on the subject I think is a critical step to really incorporating and teaching sustainability.