

University of Maryland
School of Architecture, Planning and Preservation

ARCH401: Design Studio II
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Chesapeake Project Workshop:
Integrating Sustainability Across the Curriculum

The Architectural Design Studio II is a foundation studio course for the study of architectural design at the University of Maryland. The purpose of this studio is to familiarize students with the conventions of design and the communication of design intentions. Students master these principles through the investigation of architectural concepts, contextual concepts, design process, and design representation.

Topics in sustainability permeate the architectural design studio throughout the term coursework in varying and often unpredictable ways. This is primarily due to architecture's inherent connection to sustainability whether it is through design, building systems, environmental factors, materials, or even the advent of the USGBC's LEED rating system. These narratives currently make their way into the coursework but lack structure, depth, and a common thread.

Design representation offers a unique opportunity to focus on sustainability within the framework of an architectural design studio. Contemporary mediums for the representation of design intent include various types of drawings, digital media, and physical models. It is within the context of physical model making that sustainability can be comprehensively integrated and shall serve as the basis for this proposal of sustainable practice integration into classroom.

Although students primarily use physical model making to test and validate design intentions, the supplies used for creating physical models could act as a vehicle to introduce topics of sustainability as they relate to use and selection of materials. In this way, academic endeavor on behalf of conceptual design can also serve to reinterpret how sustainability plays a role in the everyday life of a student of architecture (his or her selection of model materials) as well as the actual practice of architecture and building construction (the model as a basis for actual real world building materials.)

Model making materials will be introduced with the intent that students find sustainable supplies to use throughout the course when creating physical models to represent design concepts. The student will take an active role in searching for materials that are highly renewable, contain recycled content, or perhaps are recyclable after student use. As an example, if a student utilizes something such as FSC wood to make a physical model it affords a teaching opportunity to discuss natural resources and raw materials, environmentally safe manufacturing processes, and local/regional native materials with the entire studio section of that student.

There are several key components to integrating sustainability to physical model making materials:

1. Introduce the selection of materials as a fundamental decision linked to sustainability.
2. Raise awareness of the different aspects and facets of sustainable materials.
3. Provide resources for students for further research.
4. Link sustainable practice to the Materials & Resources section of LEED under the current rating system.
5. Support a change in culture that promotes sustainable behavior in the design studio with respect to material selection and physical model making.

With this directive, the students in this one design studio can set an example for the entire School of Architecture, Planning and Preservation and perhaps act as a catalyst for a more substantial change in both actions and philosophy throughout the entire facility.