SYLLABUS2016: Sustainable Design: Ecology, Architecture and Planning

University of Florida, Masters in Sustainable Design | Daniel E. Williams, FAIA, APA

Course Description

To design sustainably... means to create something that will 1) function and endure for an extended period of time, 2) be powered by energies that do not negatively impact the ecological balance and are 3) resilient and adaptive to natural hazards & climate change.

Present day challenges for the design profession range in scale from designing living-architectural envelopes to urban and regional design at the scale of continents. To help do this the student will learn a design process based on the science of ecological system functions. Starting with the study of how sustainable systems function in nature and integrating that wisdom into their design process - the resulting patterns and forms are efficient, compelling and resilient.

Learning Objectives

- Learn the challenges and opportunities in the design and planning profession as they relate to improving the livability and sustainability of all living things.
- Learn how ecological knowledge can inform the architectural and urban and regional design process.
- Learn how to design human patterns and settlements that improve local and regional economic health while improving environmental sustainability.
- Learn how to incorporate the regional natural resources and energy.
- Review case studies and learn the "lessons learned" and apply them to your projects.

Grading

The weighting of module assessment grades to determine the final grade is as follows (10% for class participation): TBD on an assignment by assignment basis.

Module 1: **VL** (Virtual Lecture) - Course Introduction

Module 2: **VISIT** - / Forward / Preface / Introduction / Theory /
Ecological Model / Sustainable Design / Basic Shelter / Topic

Module 3: **VL** Resilience / Regional Design - Carrying Capacity

Module 4: **VL** Urban & Community Design /

Module 5: **VL** Architectural Design Process / AIA Top Ten Awards

Module 6: **VL** Sustainable Design Metrics

Module 7: **VL** Materials, Daylight, Interiors

Module 8: **VL** Student Presentations

Grades will be based on evidence that you have:
1) **reviewed and learned the on-line presentations**;
2) have **completed the assigned reading;**
3) **participated in class discussions**, and
4) **demonstrated your knowledge and integrate this knowledge into your design process**.
"A" grades require exceptional quality, depth, synthesis of ideas, and creativity.
Final letter grades will convert from numeric grade as follows:

Grading Scale

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Quality Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0

Make-up Policy

No late work will be accepted without prior written approval by the instructor. Computer problems that arise during submission will not be accepted as an excuse for late work. All work must be completed and submitted by the designated time on E-Learning or you will not receive credit for the assignment. **It is up to the Course Instructor's discretion to determine if a make-up option will be available. Such instances will be considered individually and will be based on the date and time of the event that has caused you to miss a due date.**
Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

Accommodation for Students with Disabilities

Students requesting accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation and assistance with providing reasonable accommodation.

Student Honor Code and Academic Honesty

Students MUST follow the University's policy regarding cheating and the use of copyrighted materials. All exams and assignments will be checked for plagiarism via **turnitin.com**. Please visit http://www.dso.ufl.edu/judicial/procedures/academicguide.html for specific definitions of cheating, plagiarism and other violations.

In addition to the discussion sessions, I encourage you to contact me with specific questions or comments - **email: dan@dwa-design.com** is the best method of communication.

Textbooks, Suggested Reading and Websites

Required Text
Williams, Daniel E., ***Sustainable Design: Ecology, Architecture and Planning*****,** John Wiley & Sons, 2007 (also available on KINDLE)
Required Reading
Hawken, Paul, ***The Ecology of Commerce***

Handouts: (see website modules)

Water + Design - EPA, D. Williams; D. Watson
International Agreement on Sustainable Design, Barcelona Conference
...others as world events dictate.

Websites:

- AIA Committee on the Environment, COTE. http://network.aia.org/committeeontheenvironment/home/
- AIA Regional and Urban Design Committee - RUDC
- Intergovernmental Panel on Climate Change, http://www.ipCC.ch.
- Environmental Building News - http://www.ebn.org
- US Green Building Council: LEED - http://www.usgbc.org
- FEMA.gov
- ESP.org - ecosystems services partnership
- Living Building Challenge
- **ADDITIONAL: YOU CHOOSE ONE OF YOUR OWN**

IMPORTANT: all communication and assignments to be submitted as a PDF by email and onto our class site in the following form...

name of the - assignment name_your last name_your first name.

Example: if i was submitting the "hello" assignment it would be: ***hello_williams_daniel*** *this would also be the title on all emails with questions specific to that assignment. So if my question was on assignment "hello" my email title would read -* ***?hello_williams_daniel****.*

PLEASE ask if this is not clear.

About the Instructor

Daniel E. Williams is a practicing architect, planner and author. He is an internationally recognized expert in sustainable architecture and urban and regional design. Dan is a member of the experts team for the Clinton Climate + Initiative, advising on principles of sustainability and resilience. He served as 2006 chair of the National AIA's Sustainability Task Group and was a member of the national advisory council for United States Environmental Protection Agency, EPA - NACEPT. In 2011 he chaired the national jury for AIA Urban and Regional Design Awards.

Mr. Williams has been an invited speaker and held workshops at national conventions for AIA, APA, ASES, ASLA, AWRA, CNU, ULI, and USGBC. He participated in the development of the Council of Mayor's 2030 resolution on carbon reduction; he presented Watershed Planning Initiatives for the Center for Neighborhood Technologies in Chicago; wrote and directed the AIA/EPA grant - Conference on Water + Design in Washington D.C.; and co-authored the Barcelona Declaration of Sustainability for UIA.

In 2003 he chaired the National Committee on the Environment -COTE - for the American Institute of Architects and chaired the Task Force on the Environment and Energy for the Congress for the New Urbanism from 1996 – 2000. Mr. Williams won his first passive design award in Architecture from NASA in 1980.

He co-directed the mass-transit corridor study for the Seattle Monorail and was on the Mayor's Committee for Sustainable Seattle and the Seattle Design Review Board. Formerly he was Associate Research Professor at the University of Miami Center for Urban and Community Design where he wrote and directed the WIN Plan - a smart-growth initiative funded by the water management district for 500 square miles of south Florida. While Director for the University of Florida, Center for Education and Research he wrote and directed a study developing smart-growth urban and regional design initiatives for the 2400 square mile Southeast Coastal Region of Florida. This region is being impacted by climate change and increased storm events and sea level rise. These projects won the 1999 and 2000 National Honor Awards for Urban and Regional Design from the American Institute of Architects' and the Catherine Brown Award for Urban Design in the American Landscape in 1999.

Mr. Williams was inducted as Fellow in the American Institute of Architects in 1998 for his environmental design and planning and was named Eminent Scholar and Distinguished Alumni in 2000 at the University of Florida. His book *Sustainable Design: Ecology, Architecture and Planning* published Earthday 2007 was named top five books in planning by Planetizen in 2007 and runner up to best book on sustainable design by the Royal Architects in 2007. He is presently working on a book titled "...*no small plans": An Ecological Approach to Sustainable Regions*, that argues for the need for large-scale design interventions reflecting the immense size of the environmental, social and economic challenges that face the planet.