

**ARCH 649: Advanced History of Building Technology  
Spring 2010**

**Dr. ANAT GEVA**

Office: A 318B; Office hours: Wednesday 11:00-12:00 or by appointment  
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**COURSE DESCRIPTION**

This seminar will explore topics in history of building technology through the study of SACRED ARCHITECTURE. The class theme: FAITH, FORM, and BUILDING TECHNOLOGY. Topics will cover the technological response to rituals and symbolism of houses of God, and will focus on construction materials, methods, and systems. The course covers history precedence to understand the contemporary trends in sacred architecture and its building technology.

**NAAB 2009 STUDENT PERFORMANCE CRITERIA:**

For students working toward a professional degree in architecture, this seminar relates most directly to the following Student Performance Criterion of the National Architectural Accrediting Board (NAAB):

*A9 - Historical Traditions and Global Culture: Understanding of parallel and divergent canons and traditions of architecture, landscape and urban design including examples of indigenous, vernacular, local, regional, national settings from the Eastern, Western, Northern, and Southern hemispheres in terms of their climatic, ecological, technological, socioeconomic, public health, and cultural factors.*

Your work in this seminar should also engage several other NAAB criteria, such as: *A1 Communication Skills, A2 Design Thinking Skills, A3 Visual Communication Skills, A5 Investigative Skills, A7 Use of Precedents, A10 Cultural Diversity, C2 Human Behavior, C9 Ethics and Professional Judgment.*

**FORMAT**

The class will be conducted as a seminar: a group of graduate students studying under a professor, with each doing original research and all exchanging results through reports and discussions. The exact direction taken will depend to a large extent on your own interests and the extent of each individual's participation.

The following major topics will be analyzed, discussed, and debated:

• **INTRODUCTION – FAITH, FORM AND BUILDING TECHNOLOGY**

*Discussion:* WHAT MAKES A BUILDING SACRED? AND HOW BUILDING TECHNOLOGY ACCOMMODATES IT?

• **THE SACRED PATH – THE PLAN**

*1<sup>st</sup> Debate:* WHICH OF THE SACRED PATHS HAD THE STRONGEST IMPACT ON THE DEVELOPMENT OF BUILDING TECHNOLOGY?

• **THE SKY IS THE LIMIT – THE VERTICAL DIMENSION**

*Discussion:* WHOSE VERTICAL AXIS IS IT?

• **THE HOLY LIGHT**

*2<sup>nd</sup> Debate:* CAN ARTIFICIAL LIGHT REPLACE THE NATURAL “HOLY” LIGHT?

• **THERMAL COMFORT**

*Discussion:* WHAT IS THE SIGNIFICANCE OF THERMAL COMFORT IN SACRED BUILDINGS?

- **THE SOUND OF SILENCE – ACOUSTICS**

*Field assignment:* WHAT DO WE NEED TO HEAR?

- **SUMMARY**

*3<sup>rd</sup> Debate:* IS SACRED ARCHITECTURE THE PINNACLE OF HISTORY OF BUILDING TECHNOLOGY?

Each topic will be discussed as follow:

- *Lectures:* Dr. Geva and guests
- *Class discussions:* The class will discuss each topic exploring major issues/questions pertinent to the topic.
- *Class debates:*  
The class will be divided into two groups of students to conduct the three assigned debates. A moderator will be selected to manage the discussion. One group will take the stand of one side of the question and the other group the other side. Each team will provide the moderator a summary of their arguments before the class. The moderator will present a conclusion statement at the end of the debate. These debates should be based on *reading* the pertinent required and recommended material for each topic. In addition the students should enrich their arguments with *images, tables, and graphic illustrations*.
- *Students' presentations* (see evaluation sheet):  
During the semester students will prepare 2 PowerPoint presentations on class topics. These presentations will be based on a comparative analysis of two religious buildings. Each presentation will also include an abstract, which describes the essence of the analysis/presentation. The student can select sacred buildings representing variety of faith; built in any period of history; and are located all over the world. The selection of the religious buildings will broaden the students understanding of global historic sacred architecture in light of the current development in liturgy and architecture of houses of worship.
- *Final paper* (see evaluation sheet):  
Students will choose one of the topics, other than the topics for presentations, and develop it to a paper that will examine in depth the specific issues pertinent to the selected topic. The paper should demonstrate the student ability to submit a paper that can be considered for publication. The paper will be submitted at the end of the semester.

**EVALUATION (GRADING)**

Oral presentations + abstracts (15 points each):	30 points
Class discussions and debates (5 points per debate):	15 points
Field assignment	10 points
Final paper:	45 points

## **BIBLIOGRAPHY (see attached list)**

- Required Text:

Mainstone, Rowland J. (2001) *Developments in Structural Form*. Paperback Edition. Oxford: Architectural Press

Mann, A. T (2003) *Sacred Architecture*. Paperback Edition. Vega Books

- Recommended Readings: Additional reading will be assigned for each topic (see attached).

## **POINTS TO CONSIDER**

- **Copyright Statement:** The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to syllabi, assignments, web-sites, in-class materials, and additional problem sets. Because these are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission.

- **Aggie Honor Code** – “*An Aggie does not lie, cheat, steal or tolerate those that do.*”  
As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with the definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of the person. If you have any questions regarding plagiarism, please consult the Aggie Honor System Office website <http://www.tamu.edu/aggiehonor> or the latest version of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty."

- **Americans with Disabilities Act (ADA) Policy Statement:** The Americans with Disabilities Act is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room 126 of the Koldus Building, or call 845-1637.

**TENTATIVE SCHEDULE**

<b>Date</b>	<b>Topic</b>	<b>Lecture</b>	<b>Students</b>	<b>Discussion / debate</b>	<b>Final Paper</b>
January 21	<b>Intro/SACRED ARCHITECTURE</b>	v		discussion	
January 28	<b>SACRED PATH (plan)</b>	v			<b>SACRED PATH</b>
February 4		v			
February 11			v	<b>1<sup>st</sup> debate</b>	
February 18	<b>VERTICAL ELEMENTS</b>	v			<b>VERTICAL</b>
February 25		v			
March 4			v	discussion	
March 11	<b>HOLY LIGHT</b>	v			
March 18	<b>NO CLASS: SPRING BREAK</b>	-	-	-	-
March 25	<b>HOLY LIGHT (continue)</b>		v	<b>2<sup>nd</sup> debate</b>	<b>HOLY LIGHT</b>
April 1	<b>CLIMATE</b>	v			<b>CLIMATE</b>
April 5 (M): 5:00pm	Francois De Menil	guest			
April 8			v		
April 15	<b>ACOUSTICS</b>	v *	field *		<b>ACOUSTICS</b>
April 22			Class + v	discussion	
April 29	<b>Last Day of Class</b>			<b>3<sup>rd</sup> debate papers</b>	
May 7	<b>PAPERS (due)</b>		v		

**Note: I reserve the right to modify the schedule, topics, and readings during the course of this semester**