Neuro-Architecture: Brains, Bodies & the Biosphere
Schools of Architecture, Planning & Landscape Architecture, University of Arizona, Tucson
Syllabus Spring 2013

Course: LAR 596A Seminar
Neuro-Architecture: Brains, Bodies and the Biosphere

Term: Spring Semester 2013
Lecture: Tuesday 6:00pm – 7:00pm
Location: CAPLA Building, Dinsmore Room 200
Units: 1 unit (for credit & not for credit)

Instructor: Dr. Eve A. Edelstein
Office Hours: By Appointment
Cell: 619-838-6870
Contact Info: eveedelstein@email.arizona.edu

Description:
This series of lectures will describe how knowledge of the brain and the body's responses to nature and the built environment can be applied to inform design. Describing scholarly research and built designs, we will explore the relevance of the research-based design and our novel 'tool set' that enables us to measure human responses in terms of environmental issues and individual needs. In offering this course to students, practitioners, and users, discussions will relate the emerging field of neuro-architecture with real-world issues to explore how planning, landscape and architectural design may better serve human and global conditions.

Time/day:
Tuesdays 6:00pm – 7:00pm

For Credit:
This course is offered during the Spring 2013 term.
Students of all disciplines are welcome to attend lectures over 15 weeks for 1 credit.

For the Community:
Professionals and the community members are welcome to attend courses ‘not-for-credit’, and may participate in all 15 lectures, or a selection of lectures as described below. The fees for participants who are not taking credit are described in materials available at the CAPLA office.
Course Objectives:

Upon completion of the course students should have:

- A basic understanding of the brain’s form and function.
- A basic understanding of how the brain and body interact with built and natural settings.
- Identify and describe major contributions to evidence-based design & neuro-architecture.
- Find, evaluate and present examples of cases and research studies in which evidence has been applied.
- Extract principles, theories, and technical information for application in design.

Instructional Objectives:

Learning Outcomes

- Communication: Demonstrate an ability to communicate in verbal, written and graphic forms that meets graduate and professional standards.
- Methods: Demonstrate an understanding of methods of data gathering, analysis, interpretation and synthesis;
- Synthesize: Demonstrate an ability to synthesize and incorporate research in such a way as to generate new understanding and knowledge of design issue(s)
- Use of Precedents: Ability to examine and comprehend the fundamental principles present in relevant precedents and to make choices regarding the incorporation of such principles
- Applied Research: Understanding the role of applied research in determining function, form, and systems and their impact on human conditions and behavior.
- Design Thinking Skills: Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.

Course Readings:

- See the recommended bibliography attached.
- Reference lists of reading materials including journal articles, links to PBS, BBC specials, videos and online media will be provided in class.
- Additional readings may be suggested to supplement discussions.
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Attendance & Participation:
Attendance is required; participation in class discussion is expected. Assignments are to be handed in on-time to receive full credit. Students are required to attend all classes. Students with attendance problems may be advised, reassigned, failed or dismissed from the course.

Academic Integrity & Plagiarism:
Academic integrity is required such that students are encouraged to share intellectual views and discuss freely the principles and applications of the course materials. However, class exercises must be executed independently, except as noted by the instructor, and plagiarism is not acceptable.

Incomplete Grades:
Incomplete grades will not be given without approval of the instructor and accompanied by a written agreement with the student that specifies the timetable and work to be completed.

Evaluation Criteria:
Students will be evaluated based upon the Course Objectives, Learning Outcomes, Assignments and the following four standard criteria:
1. Completeness and Timeliness of Assigned Work
   • All written, 2-dimensional and 3-dimensional work is turned in on time
   • All itemized submittal requirements are met
2. Craft and Communication
   • Graphics, models and written materials meet accepted and established academic standards
3. Process and Development
   • Assignments methodically evolve to a higher level of complexity, correctness and refinement
4. Critical Thinking
   • Shows evidence through critical observation, relevant criteria and context for making judgments, appropriately applying source materials, methods and techniques for forming judgments and applicable theoretical constructs

Assignments & Grading:
- In-class discussions & attendance: 15%
- Midterm project: 25%
- Final project: 45%
- Final presentation: 15%
Letter Grade Criteria:

EXCELLENT;
A: 93% and Above; A-: 93% to 90%

This is work that demonstrates excellence, special care and depth in the fulfillment of the assignments. Both the work and the process add to a further understanding of the possibilities framed by the coursework’s issues and constraints. This student’s level of commitment and critical thinking sets the standard for the class.

VERY GOOD / ABOVE AVERAGE;
B+: 89% to 87%; B: 86% to 83%; B-: 82% to 80%

The student has demonstrated an above average academic performance that represents a solid understanding of the course objectives. Both the work and the process exhibit a clear understanding of the possibilities framed by the coursework’s issues and constraints. This student’s level of commitment and critical thinking are appropriate and professional.

AVERAGE;
C+: 79% to 77%; C: 76% to 73%; C-: 72% to 70%

The student has demonstrated satisfactory academic performance that represents a reasonable understanding of the course objectives. Both the work and the process exhibit a commitment and a desire to explore the possibilities framed by the projects issues and constraints. The work produced, however, falls somewhat short of this desire. This student’s level of commitment and critical thinking meet the minimum requirements for academic and professional performance.

UNSATISFACTORY / BELOW AVERAGE;
D+: 69% to 67%; D: 66% to 63%; D-: 62% to 60%

The student has demonstrated unsatisfactory academic performance that represents little understanding of the course objectives. Both the work and the process fail to exhibit a commitment and a desire to explore the possibilities framed by the coursework’s issues and constraints. This student’s level of commitment and critical thinking fail to meet the minimum requirements for academic and professional performance.

FAIL: F:
59% and below

The student has demonstrated an academic performance that does not represent an understanding of the course objectives. Both the work and the process fail to exhibit a commitment, desire or understanding of the possibilities framed by the coursework’s issues and constraints. This student’s level of commitment and critical thinking fail to meet the minimum requirements for academic and professional performance.
## Course Topics & Class Schedule:

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<td>Week of January 7</td>
<td>Introduction: Neuroscience for Architecture</td>
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<td>Week of January 14</td>
<td>Defining Neuro-Architecture</td>
<td>A Novel Design Approach</td>
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<td>Week of January 21</td>
<td>Anatomy of the Brain:</td>
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<td>Change your Brain:</td>
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<td>Touching Light:</td>
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<td>Perceiving Color</td>
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<td>Feeling Sound</td>
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<td>Moving Memory</td>
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<td>Week of March 4</td>
<td>Midterm Project Reviews</td>
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<td>Spring Break</td>
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<td>Landscape Applications:</td>
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<td>Summary</td>
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<td>Week of May 6</td>
<td>Final Exam Week</td>
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Bibliography:

Required Readings

Required journal articles will be provided in class.

Recommended Readings


