

PETITION TO SUBSTITUTE MASTER OF ARCHITECTURE BASIC STUDIES COURSE REQUIREMENT

Name _____ USC ID# _____ Date _____

EQUIVALENT COURSE TITLE(S) _____

COURSE # _____ UNITS _____ SEMESTER/YEAR COURSE WAS COMPLETED _____

GRADE _____ INSTITUTION _____

Number & Title of Course: ARCH 575B SYSTEMS: LUMINOUS AND AUDITORY PHENOMENA IN ARCHITECTURE 3 UNITS

Course Description Application of the scientific principles governing the thermal environment and human physiology to contemporary issues of environmentally responsive building energy concepts and systems. *Recommended preparation:* ARCH 505abL.

Course Goals & Objectives:

- Understanding of the fundamental scientific principles governing the luminous and auditory environments.
- Awareness and ability to implement design strategies and appropriate technologies to utilize daylight effectively.
- Ability to conduct basic analyses using hand calculations and software simulation tools in a design context.

Required Curricular Topics addressed	Met	Not Met
Lighting Principals, Systems, Design, Efficiency		
Daylighting		
Electrical Systems		
Acoustics: Principals, Strategies, Design		
Water: Site and Building Systems, Sustainable Strategies		

Required Student Performance Criterion/a addressed:	Met	Not Met
B.2 Accessibility		
B.3 Sustainability		
B.5 Life Safety		

Additional Student Performance Criterion/a addressed	Met	Not Met
B.8 Environmental Systems		
B.11 Building Service Systems		
C.2 Human Behavior		
C.7 Legal Responsibilities		

Topical Outline (include percentage of time in course spent in each subject area):

- Lighting (35%)
 Lighting Basic Perception and Terms; Physics of Light and Color; Design with Daylight; Precedents and Examples; Design with Daylight Rules of Thumb; Daylighting Calculations – Lumen Method; Physical Models and Computer Simulations; Artificial Lighting Equipment, Theory & Samples; Artificial Lighting Calculations – Point Grid; Artificial Lighting Calculations – Lumen Method; Lighting Case Studies (guest lectures); Field Trip to IESLA Lighting Product Fair
- Acoustics (30%)
 Acoustics Basic Theory and Perception (demonstrations); Acoustics: Physics and Calculations; Noise Isolation and Calculations; Principles of Performance Acoustics; Acoustic Case Studies
- Building Systems (35%)
 Plumbing – Supply; Plumbing – Drainage; Fire Systems; Fire Case Studies (guest lecture)
 Infrastructure – Movement Systems; Accessibility, ADA, and Title 24

Textbooks/Learning Resources:

Lam, William, Perception and Light as Formgivers for Architecture.
 M. David Egan. J. Ross, Architectural Acoustics. 2007.

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Recommendation Substitution Approved Substitution Denied

Associate Director, Master of Architecture _____ Date _____
 Selwyn Ting

Comment _____