INTEGRATED TEC M.BS

SYNTHETIC

Building Science at the USC School of Architecture recognizes that exemplary architecture requires innovative responses to natural forces. The integration of the study of building sciences with knowledge of current practice and new technologies creates synergistic and holistic architectural design that satisfies performative goals.

MASTER OF BUILDING SCIENCE PROGRAM

MASTER OF BUILDING SCIENCE DEGREE

This two-year, 48-unit degree program includes the option for each student to complete a course-based or thesis-based research project and is supported by research seminars and electives from architecture, engineering, and other related fields. Students are individually guided through their study and thesis. Past thesis research topics include building envelopes, BIM, computer-aided architectural design, energy analysis, lighting design, seismic sustainability, structural systems, and zero net energy buildings. Many papers based on thesis work have been co-authored by faculty and students and have been published and/or presented at professional conferences. This program is intended for students with a background in architecture, engineering, or related areas.

Studies in the Master of Building Science Program can be combined with the following graduate certificates:

GRADUATE CERTIFICATES

Architecture, Heritage Conservation, Landscape Architecture, and Sustainable Design

GRADUATE CERTIFICATE IN SUSTAINABLE DESIGN

This 16-unit, multidisciplinary program provides students with the tools necessary to understand and quantify the sources of energy use in buildings and landscapes. Studies emphasize improving sustainable design choices regarding natural and man-made systems, considering the performance of the built environment, the reduction of its embodied and operational energies, and the influence of other resource issues. This program is intended for working professionals and graduates students and requires certificate program admission.

GRADUATE CERTIFICATE IN BUILDING SCIENCE

For working professionals and graduate students (with the exception of students enrolled in the MBS Degree Program) to acquire understanding of core issues and knowledge; 16-unit program requires graduate standing and certificate program admission.
Building Science at the USC School of Architecture recognizes that exemplary architecture requires innovative responses to natural forces. The integration of the study of building sciences with knowledge of current practice and new technologies creates synergistic and holistic architectural design that satisfies performative goals.
The complex interplay of environmental, structural, and material issues with human needs and global problems is a rich field for study.

The environment and evolving technologies impact building design, which has a big impact on three areas in today’s 21st-century cities: altering building environments include changing energy needs and sources, the growth of urban density, and reduction for adapting our aging, inefficient buildings. Every decision we make has consequences. In the USC MBS program, we seek to foster both an architect’s creativity and a scientist’s curiosity, two aims of the program to develop students in an integrated learning environment that makes students strong architects or consultants.

Building science strengthens architecture through technology. The Master of Building Science program addresses the need for a new generation of design professionals prepared to bring appropriate technology to the design of a sustainable environment. Within this context, the program emphasizes: 1) the integration of planning, design, and technology to form a coherent, interdisciplinary focus for the appropriate construction of urban places. 2) Recognition of the ecological importance of energy-efficient design and construction as well as the social value of places in which natural forces and systems are utilized rather than suppressed. 3) The development of research and design methods suited to the complexity of building in urban settings and effective communication of those methods to the broader community.

USC’s programs also draw inspiration from the energy and dynamics of Los Angeles itself, a complex blend of multi-ethnic and cultural diversity. Blessed with a mild climate, yet at risk from earthquakes and other natural or manmade disasters, L.A. is a city that has learned to interface environmental and ecological parameters uniquely. Above all, Los Angeles is a highly original, experimental city that consistently challenges preconceptions and serves as an incubator for new ideas and practices.
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