

FORM VI

FORM

1995



UNIVERSITY OF SOUTHERN CALIFORNIA • SCHOOL OF ARCHITECTURE

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Since its inception in 1914, the School of Architecture at the University of Southern California has grown from a small department within the university to a world-renowned institution offering courses in architecture, city planning, landscape design, and building science. In the 80 years since our founding, we have undergone many changes that have affected our academic curricula, our physical environment, and our design focus.

In the last five years alone, we have seen the addition of a new library, workshop, photography lab, and cafe. The number of minority and women faculty continues to rise. And the growth of the computing facilities in both the School of Architecture and the University has been phenomenal. With the continued commitment and dedication of the faculty, staff, and students, the energy that has shaped our achievements to date will bring even greater successes in the future.

As one of the top ten schools of architecture in the nation, with internationally distinguished faculty and with highly motivated students, the School of Architecture stands on the brink of a new era. In the coming year, we will witness the hiring of a new full-time dean, another NAAB accreditation review, and the expansion of the electronic Clipper Lab. Events that will have a profound effect on our future are daily occurring. How will these events shape the future to come? And as we move into the twenty-first century, what

can we expect of the School? This edition of FORM is dedicated to exploring the many possible futures of the School of Architecture as evidenced by our present and past conditions.

This issue contains a diverse collection of views on where we have been, where we are, and where we hope to be. This is not the "official," school-sanctioned appraisal of the situations, but are rather the convictions of the individual authors.

In our attempt to provide an all encompassing look at the School of Architecture, we have included student and faculty members from within and outside of the school, alumni, and others connected to the school. Topics covered range from undergraduate to graduate, curricula, student organizations, life after USC, and the school's connections to other institutions and programs and to the Los Angeles community at large.

As you delve into the history of the school and learn more about it, we hope that your new found knowledge will provide you with insights into how we can improve both our physical and our academic environments. It is our hope that at the end of this issue, you will share our enthusiasm for the bright future that lays ahead for the School of Architecture.

THE USC MASTER OF CONSTRUCTION MANAGEMENT: A New Interdisciplinary Option
by James E. Moore, Ph.D.
with Henry Koffman

- School of Engineering
- Department of Civil Engineering Construction Engineering and Management Program
- School of Urban and Regional Planning
- Lusk Center for Real Estate Development
- School of Architecture
- Building Science Program
- Graduate School of Business Administration
- Department of Finance and Business Economics Program in Real Estate

Introduction
Construction management is a set of complex, professional activities that must be undertaken with special cognizance of the technical, economic, and policy environment. The field's scope spans elements of construction technology, real estate development, building science, urban and regional planning, and project management. This presents a particularly complex set of requirements best served by an interdisciplinary approach to professional education and training.

Despite prevailing economic conditions, the real estate/construction industry is generating

considerable demand for well trained professionals in the area of construction management. The total annual volume of construction in the United States is approximately \$280 billion, making the construction industry one of the largest single production sectors of the American economy. Southern California leads the nation in construction activity. Many leading construction firms are headquartered or otherwise represented in the area.

The nation's university system is not meeting the demand for construction management professionals. Several institutions have graduate programs in real estate development or graduate programs in construction engineering. Some universities couple construction engineering and construction management, but these (USC included) tend to restrict admission to civil engineering students or students from closely allied fields.

Several California State University campuses offer undergraduate construction management degrees. Some of these are engineering degrees and some are not. Numerous institutions offer undergraduate and/or graduate degree programs in construction engineering. The civil engineering programs at Stanford University, the University of California at Berkeley, the University of California at Irvine, and Santa Clara University are noteworthy.

The University's strategic plan challenges academic units to work together to create new interdisciplinary programs of instruction and research. A consortium of four academic units in the University of Southern California (Civil Engineering, Urban and Regional Planning, Architecture, and Business) have pooled their resources to create an exciting new graduate degree program designed to educate professionals for roles in the construction industry. The University's Graduate Program and Studies Committee approved this new option in the Spring of 1994. The program leads to a special joint degree, the Master of Construction Management.

The University of Southern California already enjoys considerable strength in areas related to construction management. The Civil Engineering Department has an established MSCE degree program in construction engineering and management. The simultaneous presence of the School of Urban and Regional Planning's Lusk Center for Real Estate Development, the School of Architecture's building science program, and the Department of Finance and Business Economics real estate option provides USC with special opportunities to implement a premier program in construction management. Administrators and faculty in the School of Architecture's building science program have been a particularly important source of suggestions for and improvement in the Master of Construction Management Program.

The Master of Construction Management degree program is unique in that it is a graduate program, provides a professional non-engineering degree with technical elements, and is thoroughly interdisciplinary. Only the University of Denver offers a comparable degree program, which leads to a Master of Science degree in Real Estate and Construction Management. The Massachusetts Institute of Technology's Department of Urban Studies offers a highly regarded Masters in Real Estate Development. However, no other program brings together so many of the relevant curriculum elements.

USC's Master of Construction Management program prepares students for careers as industrial leaders in the real estate/construction industry. It is sufficiently rigorous to serve as an introductory degree program for students intending to pursue additional advanced studies in construction management or allied fields. The new program's professional component reflects the University of Southern California's signature blend of professional and liberal education, a combination also emphasized with considerable success by the program's sponsoring schools. Professional concerns are woven into the contextual elements of the course work. In addition, students take elective courses intended to assure institutional and professional depth.

Requirements for Admission

A bachelors degree from an accredited institution is required. If an applicant's undergraduate background does not satisfy program prerequisites, the applicant is counseled to correct the deficiency. A minimum undergraduate GPA of 3.0 on a 4.0 scale and GRE or GMAT scores acceptable to the sponsoring faculties are required. There are no other special requirements for admission. Industry experience is recommended but not required.

Requirements for Completion

Construction management is unique in that academics and practitioners are usually able to agree quickly on relevant course work. Thus, despite the interdisciplinary nature of the joint curriculum, students are not burdened with the responsibility for final synthesis. Students receive the special intellectual benefits that flow from an interdisciplinary experience, but at reduced risk.

The Core Curriculum

A total of ten courses is required, accounting for 33 units (some combinations of electives may produce a total in excess of 33) over 3 semesters (Summer-Fall-Spring). The core of the Master of Construction Management degree is a seven course program covering basic operations, analysis, planning and management skills needed in construction activities.

CORE CURRICULUM

Prerequisites: One course in probability and/or statistics & CE 498: Engineering Risk Analysis (3) or PLUS 502: Statistical Decision Making (4) or CE 556: Economics (4) or CE 558: Economics (4) or CE 559: Advanced elective course toward remedial work, provided the course is at the 500 level or higher.

• One course in capital management and/or engineering economy at the level of ISE 498a: Engineering Economy (2).

The capital management requirement may be satisfied by an advisor selected audit, or ISE 561: Advanced Engineering Economy (3).

7. Construction Management Core Courses, 23-24 units

- CE 501: Functions of the Constructor (3 Fall)
- CE 556a: Project Cost Estimating, Control, Planning

The Elective Curriculum

The program includes a set of suggested institutional/professional and advanced electives that address important issues in real estate/construction management. This is a broad range of issues, many of which exhibit a combination of economic, technical, and/or social dimensions. Students will be advised to investigate course options in the Department of Civil Engineering, the School of Urban and Regional Planning, the School of Architecture, the Graduate School of Business Administration, the School of Public Administration, the School of Gerontology and other units in the University. Student designated electives are actively encouraged subject to advisor approval. Student designated electives could be very diverse and might include courses from the units listed above, the School of Law, etc.

Students are informed of cogent combinations of electives. These combinations define alternative emphases. Students are not required to elect an elective emphasis, but they will be made aware of recommended options and alternatives. Suggested emphases include construction estimating, site development, and building design.

Many classes are taught at night to accommodate working students. The Graduate School of Business Administration is willing to admit additional students to the evening sections of GSBA 510: Accounting Concepts and Financial Reporting.

- Scheduling I (3 Fall)
- CE 556b: Project Cost Estimating, Control, Planning & CE 558: Economics (4) or CE 556: Economics (4) or CE 502: Construction Accounting and Finance (3 Fall) or
- GSBA 510: Accounting Concepts and Financial Reporting (3 Fall, Spr) or
- ACCT 538: Tax and Accounting Issues in Real Estate (3 Spr, GSBA 510 recom)
- RED 542: Finance of Real Estate Development (new title) (4 Sum)

Students entering the program late may substitute FBE 591: Advanced Real Estate Analysis (3 Fall, Spr)

- RED 509: Market Analysis for Real Estate Development (4 Fall, RED 542 prereq)
- ARCH 511L Seminar: Building Systems (4 Fall)

Intellectual Relationship to Other USC Degrees

The Master of Construction Management program provides USC with several contiguously positioned undergraduate and graduate degree programs covering the full spectrum of professional real estate construction, development, and design activities. The program fills an intellectual and academic niche that exists between the sponsoring schools' degree programs. Filling this niche makes possible new connections and working relationships between the sponsoring units. No one school could have filled this niche by acting alone. However, the faculty involved recognize that the University can define a superior program by proceeding jointly. By drawing simultaneously on the construction engineering and real estate development cores in concert with the curricular opportunities provided by the Schools of Architecture and Business Administration, the University of Southern California has created an innovative construction management program of national rank.

Proposed Dual Degree Program: Master of Building Science/Master of Construction Management

The faculties of the School of Urban and Regional Planning, the Department of Civil Engineering, and the School of Architecture's Building Science program have agreed to propose a new dual degree program that will combine the interdisciplinary

REQUIREMENTS FOR COMPLETION

Program	Core Units	Elective Units	Total Units
MBS	27	21	48
MCM	23-24	10 min.	33 min.
			81
MBS/MCM dual degree program			58 min.

Master of Construction Management degree with the School of Architecture's Master of Building Science degree. Students completing the proposed program will receive two degrees.

Requirements for Admission

Students will be selected independently to both programs, based on each program's respective requirements. The Master of Building Science program requires successful applicants to have earned a Bachelor of Architecture, Bachelor of Architectural Engineering, or Bachelor of Science in Engineering degree from an accredited school of architecture or engineering.

Requirements for Completion

The proposed dual degree program offers students considerable economy. The program will usually require a minimum residency of five semesters and typically starts during the summer session. The School of Architecture is currently entertaining a request from the School of Urban and Regional Planning and the Department of Civil Engineering to routinely offer Arch 511L during the second summer session.

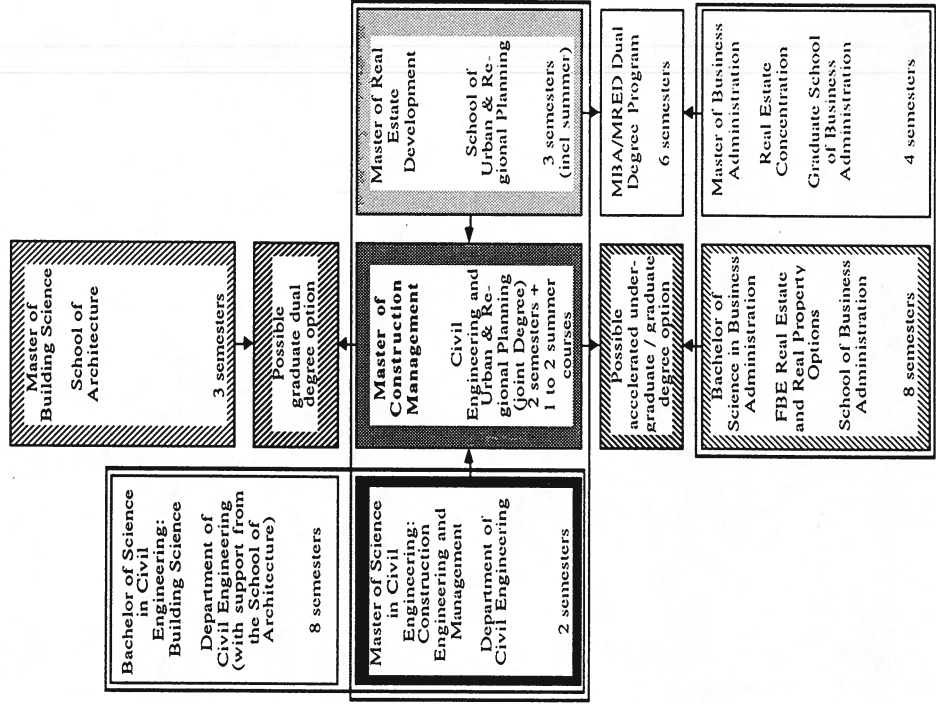
All required courses for both degree programs must be completed. Master of Construction Management units count as electives toward the Master of Building Science degree, and Master of

Building Science units count as electives toward the Master of Construction Management degree. At least 58 units will be required to complete the dual degree program.

Oversight
The new program will be overseen by a joint faculty committee consisting of the Director of the Civil Engineering Department's Construction Engineering and Management Program (chair, currently Prof. Koffman); Prof. Moore, whose appointment is joint between Civil Engineering and Urban and Regional Planning; the Director of the School of Urban and Regional Planning's Lusk Center for Real Estate Development (Prof. Peiser); and other departmentally designated members of the School of Architecture Building Science Committee, the Civil Engineering Curriculum Committee, and the Urban and Regional Planning Master of Real Estate Development Committee. The joint faculty committee will be congruent with the existing Construction Management Committee, and will perform liaison, program development, and admissions functions subordinate to the roles of the Architecture building science faculty, Civil Engineering curriculum committee, and the Urban and Regional Planning, Master of Real Estate Development committees.

James Moore is Associate Professor of Urban and Regional Planning and Civil Engineering. Prof. Moore completed his Ph.D. in Infrastructure Planning and Management at Stanford University in 1986. He has also served as Assistant Dean for Computing and New Programs Development, and serves CE as Director of the Transportation Engineering program.

Henry Koffman is Director of Civil Engineering's Construction Engineering and Management Program. Prof. Koffman completed his graduate work at the University of Southern California. He is a developer with extensive experience directing major construction projects. He and Prof. Moore co-direct USC's interdisciplinary Construction Management program.



THIS PAGE
Master of Construction
Engineering and Management
with existing degree programs.
Opportunities exist for future
programs of which the MCM
degree might be part.