



Graduate Study in Design and Environmental Analysis

# Masters of Science in HUMAN/ENVIRONMENT RELATIONS

Two-Year Graduate Program

## CONCENTRATION: Facility Planning and Management

The Facility Planning and Management Concentration is a multi-disciplinary program that draws on research, concepts, theory, and experience from the fields of facility management, psychology, organizational behavior, architecture and design, real estate, and business. The program focuses on the planning, design, and management of facilities for large, complex organizations such as corporations, health care institutions and universities. The focus is more on planning and management than on facilities operations and maintenance, though students are familiarized with issues in these areas. It also stresses how good facilities planning, design and management can help organizations' leverage their scarce resources of time, money and people to strengthen their competitive advantage. Through course work, often involving real clients, students develop the ability to analyze and develop programmatic requirements and workspace strategy, as well as implementation and evaluation strategies for workspace solutions that help organizations effectively plan, design, and manage their facilities to meet organizational goals.

Students may minor in many fields, but two of particular interest are:

- Real Estate Planning and Management
- Health Administration (Sloan Health Administration Program)

## CAREERS

Students typically take positions in corporate facility planning and management departments in large organizations (e.g., IBM, Goldman Sachs, Toyota Motor), in workplace strategy units in large consulting firms (e.g., Price Waterhouse Coopers), and in the workplace consulting units of architectural and planning firms (e.g., Gensler, HOK, Nelson). Job functions in these departments range from project management, workspace analysis and space forecasting to developing, managing, and analyzing facility databases, workspace change management, and evaluation of workspace solutions. Salaries and career advancement are excellent.

## M.S. REQUIREMENTS

Required courses in each of the four categories listed and outlined below provide students in the Facility Planning and Management concentration with a working knowledge of basic methods, procedures, concepts and research in this field. (In those cases where students come to Cornell having taken comparable courses they can petition to waive that course; or, if they believe they have gained a working knowledge of the material in the required courses through practical experience, they can petition to *test out of that course*. *In either case, students are expected to work with their advisor to substitute other courses for those that are waived.*)

- Facility Planning, Design and Management
- Real Estate and Development Practices
- Business Management, Financial Theory and Practice
- Research Methods and Thesis

## ■ FACILITY PLANNING, DESIGN & MANAGEMENT

Students attain a basic level of understanding and competency in three areas. First is an understanding of facilities themselves and their components including; the site and related systems; building systems and related technologies; building interiors including layouts, furnishings, finishes and equipment. Secondly, students attain basic competence in the techniques or procedures of facility planning and management. This includes techniques for analyzing, programming, planning, designing, constructing, managing, maintaining, operating and evaluating facilities. Third is an awareness of the importance of developing and maintaining facilities that are sustainable and protect the environment.

| <b>Required courses (6 courses, 18 credits total):</b> |  |           |
|--|--|-----------|
| CEE 5900   | Project Management                       | 4 credits |
| DEA 2040   | High Performance Buildings               | 3 credits |
| DEA 5540   | Workplace Strategies Studio              | 4 credits |
| DEA 6250   | Human Dimensions of Sustainable Building | 3 credits |
| DEA 6500   | Problem-Seeking through Programming      | 4 credits |

## ■ REQUIRED/RECOMMENDED DEA COURSE AUDITS

To provide all students with an introduction to the fields of Human-Environment Relations and Design, it is recommended that all students audit the first two courses listed below, unless they have taken similar courses elsewhere. The seminar course is required.

| <b>DEA field courses required or recommended (3 courses):</b> |   |                  |                            |
|---|---|------------------|----------------------------|
| DEA 1110  | <i>Making a Difference By Design</i>  | <i>Suggested</i> | 3 credits (audit)          |
| DEA 1200  | <i>Art+Science: Sustainability, Multiculturalism, and Transdisciplinarity</i> | <i>Suggested</i> | 3 credits (audit)          |
| DEA 1500  | <i>Introduction to Environmental Psychology</i>                               | <i>Suggested</i> | 3 credits (audit)          |
| DEA 2550  | Design Strategy and Management  | <i>Suggested</i> | 3 credits (audit)          |
| DEA 2730  | Human Centered Design Methods   | <i>Suggested</i> | 3 credits (audit)          |
| DEA 4500  | Policy Meets Design: High-impact Facilities of the 21 <sup>st</sup> Century   | <i>Suggested</i> | 3 credits (audit)          |
| DEA 6100  | Studies in Design Thinking  | <i>Required</i>  | 3 credits                  |
| DEA 6200  | Studies in Human-Environment Relations  | <i>Required</i>  | 3 credits                  |
| DEA 7100  | DEA Graduate Pro Seminar  | <i>Required</i>  | *1 credit (*each semester) |

## ■ RESEARCH METHODS

A basic premise of the program in Facility Planning and Management at Cornell is that research derived knowledge should form the basis for practice in this newly established profession. This commitment to the development of an empirically tested knowledge base requires that students as future practitioners develop an understanding of research and research methods so that they can appreciate, evaluate and apply the new knowledge and procedures as they emerge. In addition, knowledge or research methods will enable students to carry out or to contract for, and manage effectively, research on questions of interest in planning, managing and evaluating their facilities.

| <b>Required courses (2 courses, 7-8 credits total):</b> |  |               |
|---|--|---------------|
| Various   | Statistics (approved by committee) must be graduate level, not undergraduate level | 3-4 credits** |
| DEA 6560  | Research Methods in Social Sciences  | 4 credits     |

## ■ BUSINESS MANAGEMENT, FINANCIAL, THEORY AND PRACTICE

As a management function, facility management includes two levels of managerial/administrative activity, financial planning and budgeting. Students need to understand such things as capital-budgeting decisions, the cost of capital and cost allocation systems.

| <b>Select any one of the following required courses (3 credits total):</b> |                      |           |
|--|----------------------|-----------|
| AEM 2241   | Finance              | 3 credits |
| HADM 1210  | Financial Accounting | 3 credits |
| HADM 2210  | Managerial Finance   | 3 credits |
| HADM 2220  | Finance              | 3 credits |
| HADM 2250  | Finance              | 3 credits |

## ■ REAL ESTATE, PLANNING AND DEVELOPMENT PRACTICES

Acquiring and disposing of rented and owned property is an essential activity of facility management. Facilities comprise a significant component of corporate assets and of corporate operating costs. Managing these assets as an investment and profit center is also an important aspect of Facility Planning and Management.

| <b>Select any one of the following required courses (3 credits total):</b> |  |           |
|--|--|-----------|
| CRP 5320   | Real Estate Development Process                                      | 3 credits |
| CRP 5330   | Real Estate Marketing and Management                                 | 3 credits |
| HADM 6200  | Principles of Real Estate (Prereq. HADM 2220, HADM 2250 or AEM 3240) | 3 credits |

## ■ COURSES IN MINOR

Students select a Minor Committee member by the end of their first semester. Typically, the Minor member requires 2-3 courses in the minor field. The courses are determined jointly by the student and the Minor member.

| <b>Required courses (2-3 courses, 6-9 credits):</b> |             |             |
|---|-------------|-------------|
| Various   | 2-3 courses | 6-9 credits |

## ■ THESIS COURSE

|          |                 |              |
|----------|-----------------|--------------|
| DEA 8990 | Master's Thesis | 8-12 credits |
|----------|-----------------|--------------|

\* Thesis research is typically taken in each of the two semesters of the second year, with 3 credits in the third semester, and 7 credits in the fourth semester. This can vary and should be determined in consultation with the student's Chair.

## ■ SUMMARY OF CURRICULUM

| Summary of Curriculum             | Number of Courses | Total Credits               |
|-----------------------------------|-------------------|-----------------------------|
| <b>FPDM Required Courses</b>      | 6                 | 18                          |
| <b>Required DEA field courses</b> | 3                 | 10 (6+1/ semester)          |
| <b>RM Required Courses</b>        | 2                 | 7-8                         |
| <b>BMFTP Required Courses</b>     | 1                 | 3                           |
| <b>REPDP Required Courses</b>     | 1                 | 3                           |
| <b>Courses in Minor</b>           | 2-3               | 6-9                         |
| <b>Master's Thesis*</b>           | 1-2               | 8-12                        |
| <b>Total Courses: 16-18</b>       |                   | <b>Total Credits: 55-63</b> |

\* Thesis credits are determined at the discretion of the thesis committee; the number of courses and credits listed merely indicate typical range.

\*\* Statistics must be graduate, not undergraduate examples: ILRST 5100, ILRST 6100, PSYCH 6750, HD 6750.

**NOTE:** A minimum grade of B- is required for courses taken within the major.

| <b>ELECTIVE COURSES OF POTENTIAL INTEREST:</b> |   |           |
|--|---|-----------|
| AEM 1200                                       | Introduction to Business Management                         | 3 credits |
| AEM 3200                                       | Business Law I (Also NBA 5600)                              | 3 credits |
|  |   |           |
| ARCH 1611                                      | Environmental Systems I—Site and Sustainability (ARCH 5611) | 3 credits |
| ARCH 2614                                      | Building Technology, Material and Methods                   | 3 credits |
| ARCH 2616                                      | Environmental Systems II—Building Dynamics (or ARCH 5616)   | 3 credits |
|  |   |           |
| CEE 5950                                       | Construction Planning and Operations                        | 3 credits |
|  |   |           |
| DEA 3030                                       | Interior Materials and Sustainable Elements                 | 3 credits |
| DEA 4100                                       | Diversity and Facility Design                               | 3 credits |
|  |   |           |
| DEA 6510                                       | Ergonomics and Anthropometrics                              | 4 credits |
| DEA 6520                                       | The Ambient Environment                                     | 4 credits |
| DEA 6550                                       | Healthcare Innovations                                      | 3 credits |
| DEA 6610                                       | Environments and Health                                     | 4 credits |
|  |   |           |
| HADM 2230                                      | Financial Accounting Principles                             | 3 credits |
| HADM 2550                                      | Hospitality Development and Planning                        | 3 credits |
| HADM 3510                                      | Hospitality Facilities Design                               | 4 credits |
| HADM 6210                                      | Hospitality Real Estate Finance                             | 3 credits |
| HADM 6280                                      | Real Estate, Finance and Investment                         | 3 credits |
|  |   |           |
| NCC 5000                                       | Financial Accounting (or AEM 2210)                          | 3 credits |
| NCC 5030                                       | Marketing Management  | 3 credits |
| NCC 5040                                       | Management and Leading in Organizations                     | 3 credits |
|  |   |           |
| NTRES 2010                                     | Environmental Conservation                                  | 3 credits |