

facility | **MANAGEMENT**
| FERRIS STATE UNIVERSITY



facility **MANAGEMENT**

Facility Management is a dynamic, evolving profession that faces new challenges and opportunities created by advances in technology and expansion in global business development. As defined within the International Facility Management Association's (IFMA) official statement: It is "... the practice of coordinating the physical workplace with the people and the work of the organization ... integrating the principles of business administration, architecture and the behavioral and engineering sciences." People, place and process converge to create and maintain vibrant, safe, and effective environments.

program | MESSAGE

The pioneering Facility Management curriculum at Ferris State University has a proud record of providing professional cutting edge facility management education. The program is recognized among professionals, corporations and associations as producing qualified, employable graduates with valued technical and management skills. Our graduates currently enjoy successful careers in managing and planning dynamic facilities for diverse organizations.

The Ferris Bachelor of Science degree is one of a select group of programs worldwide to be awarded accreditation by the International Facility Management Association for meeting the highest standard in facility management education. All courses in the curriculum qualify for Certified Facility Manager (CFM) maintenance points. In addition, all faculty teaching in the program are licensed architects and hold additional certifications or designations such as historical architect, CFM, FMP (Facility Management Professional), SFP (Sustainability Facility Professional), LEED AP (Leadership in Energy and Environmental Design Accredited Professional), or LEED BD+C (Building Design + Construction).

Ferris State University offers three educational programs in Facility Management designed to meet the needs of various individuals who plan to or currently deal with facilities.

- Bachelor of Science in Facility Management
- Minor in Facility Management
- Certificate Program in Facility Management

Within all three programs faculty are committed to providing high, quality instruction and programming. As part of the Architecture and Facility Management Department within the College of Engineering Technology, the FM curriculum has the advantage of providing a balanced, technical education that promotes critical thinking skills in conjunction with technical, business and management skills and knowledge.

The demand for facility management graduates is high and a career in facility management offers many opportunities. The responsibilities of facility managers are varied and numerous. A facility manager may supervise numerous aspects of a company's facilities including: planning and construction, interior design, computer systems, telecommunications, real estate acquisition and development, security, and more. As such, facility managers wear many professional hats and must be knowledgeable and skilled as follows: communicators, environmentalists, designers & space planners, strategic planners, financial planners, "tekkies", and team leaders (International Facility Management Association - IFMA). Facility Management is ideal for those who are detail-oriented, organized, and enjoy working with and managing people. Within this context facility managers create and assure safe work environments, support corporate goals through the physical workplace and enhance organizational effectiveness.

Entry-level positions offer competitive salaries ranging from \$48,000 to \$75,000 depending on geographic location, company size and position. With five years of experience average salaries range between \$70,000 to \$95,000.

Average salaries for the following titles (facilitiesnet.com 2018)

- Facility Specialists - \$85,000 - \$110,00
- Facility Managers - \$94,000 - \$120,000
- Facility Directors - \$130,000 +
- Facility Executives - \$200,000 +

The majority of graduates, enter the workplace; however, some graduates continue their educational career and enroll in a Master of Business Administration (MBA) program to further their career and earning opportunities.

Other students take advantage of the **dual degree program** that includes two bachelor degrees: a BS in Facility Management and a BS in Architecture and Sustainability OR a BS in Facility Management and a BS in Construction Management. These dual-degree programs consist of a structured, organized curriculum that allows students to complete both degrees and graduate in 5 years (2 years to earn AAS degree, 3 years to earn BS degrees).

Students who pursue these unique learning paths have interests in both architecture and facility management OR construction management and facility management and wish to combine two career-oriented degrees to acquire in-depth knowledge of two subject areas, broaden their horizons, or improve job prospects. Additionally, completion of a dual degree program shows initiative, organization, and follow-through. These credentials look impressive on a resume, and provide our graduates with the opportunity to take their careers in diverse directions as interests and priorities change.

Not only is the dual degree an education that allows students to pursue two careers, but it implies an education that fosters and develops transferable skills, such as communication, teamwork, and collaboration, as well as design and managing of the built environment.

Students interested in pursuing the dual degree are invited to make an appointment with the Program Coordinator in the Architecture and Facility Management Department Office by calling (231)591-3100 or emailing atfm@ferris.edu.

A sampling of firms, companies, and corporations that hire our Facility Management graduates includes:

- Amway
- Aramark Corporation
- CSI Group
- DOW Chemical
- DTE Energy
- Environmental Protection Agency
- Facility Engineering Associates
- Ford Motor Company
- FM Systems
- General Services Administration (GSA)
- Gordon Food Services
- Grand Valley State University
- Haworth
- Hilton Hotels
- Hyatt Hotels
- Intel Corporation
- Johnson Controls
- National Park Service
- Starbucks Coffee
- Spectrum Health
- Steelcase
- University of Michigan

program | SPECIALTIES

- Program was established in 1989 to provide students with a unique Baccalaureate degree in an exciting new profession.
- An average faculty/student ratio of 1 instructor for every 20 students assures small classes that guarantee interactive learning with faculty and peers alike.
- Program faculty are experienced educators and practitioners and are Licensed Architects, Certified Facility Managers, FMP, SFP, LEED AP, and LEED BD+C.
- In the classroom and studio faculty teach theory and the practical day-to-day experience of real world learning.
- A robust annual schedule of professional facility managers serve as guest lecturers who enhance classroom learning with current practice and trends.
- Curriculum was developed and is annually reviewed by an FM Advisory Board of facility managers from major corporations and organizations.
- Curriculum focuses on the core competencies identified by IFMA as the fundamental areas of skills and knowledge necessary for a successful facility manager.
- Curriculum provides students with a practical foundation in business and management practice, project

management, design management, space planning and real estate development and management.


- The senior Capstone Research and Capstone Thesis courses integrate a visiting professor who works in tandem with a full-time faculty member to provide a framework for individualized facility management projects that include: project creation, development and review.
- The career-oriented curriculum results in an average 95% graduate placement rate within the facility management profession or continuation into an MBA graduate program.
- An active student chapter of IFMA (International Facility Management Association) provides opportunities to travel, perform community service, and interact with professional facility managers and employers. It also maintains a close relationship with the professional members of the West Michigan Chapter of IFMA.
- Graduates are prepared to meet the challenges and demands of today's facility management profession.
- Graduates successfully complete the CFM exam, regarded as the industry standard for ensuring the knowledge and abilities of practicing facility managers.



bachelor DEGREE

The baccalaureate program, offered through the Architecture and Facility Management department, is one of a broad array of two- and four-year programs focused on design, construction, and control of the built environment. The program has been designed as an upper division specialization for graduates of Ferris State University and community college Associate Degree programs in Architectural Technology and related curricula. Accommodation may be made for graduates of other programs outside building design and construction disciplines.

As a 2+2 program, the first two years of the undergraduate experience begins with a foundation of technical skills leading to an AAS degree in Architectural Technology. Ferris' Architectural Technology program has a long history of recognized success and provides the appropriate preparatory coursework for the upper-level degree; with a focus on the fundamentals of technology, building systems and performance, fundamental design principles, and construction materials and detailing. The second two years of the undergraduate experience leads to a BS degree in Facility Management. Course content and projects are designed to incorporate a set of practices and ways of thinking



Ideal faculty/student ratio –
optimal learning environment

about the managing of buildings for the sustainable development and control of the built environment. Taught by practitioners, the curriculum provides skills, knowledge, and aspirations necessary to allow students to become successful professionals.

The baccalaureate program in Facility Management at Ferris State University has been developed to meet the educational goals of the following professional competencies.

- Communication
- Emergency preparedness and business continuity
- Environmental stewardship and sustainability
- Finance and business
- Human factors
- Leadership and strategy
- Operations and maintenance
- Project management
- Quality
- Real estate and property management
- Technology

A core of general education, business studies, building technology, and facility course work provides graduates with the skills, knowledge, and abilities for employment in the growing field of corporate facility management, as well as in related areas with consulting and service firms.

program OBJECTIVES

- Provide a foundation in mathematics and physical science, behavioral science, written and verbal communication, and computer skills.
- Provide a solid foundation in business and management and its application to facility management.
- Develop an ability to use the tools and techniques of the facility manager.
- Develop an understanding of facility analysis, planning and design.
- Develop knowledge of the architectural and construction process.
- Develop knowledge of contemporary office technology and philosophy.
- Develop knowledge of building systems technology and the proper operation and care of those systems.

ADMISSION REQUIREMENTS

- Application for admission should be submitted by February 1 prior to fall semester requested.
- Graduates of the Associate Architectural Technology degree at Ferris State University or other accredited institutions will be eligible for admission with a minimum GPA of 2.75. Admission will be granted on a competitive basis upon review of all applicants by the faculty.
- A student may be admitted into the Facility Management Program from other Ferris State University programs and other accredited institutions upon completion of a related Associate degree or achievement of junior status (60 or more credit hours). A modified curriculum will be developed by the faculty on a case-by-case basis to ensure that competency is achieved and all Ferris State University requirements, including General Education requirements, are met.
- Students with special circumstances may be allowed to enroll in Facility Management courses but will not be officially admitted into the program until meeting the standard requirements. Until officially admitted, they may be classified as pre-FM students in Facility Management.

DEGREE REQUIREMENTS

- A minimum of 65 semester credits of prescribed study.
- Successful completion of summer internship course.
- GPA of 2.0 or higher in major degree courses.

For additional information call the Architecture and Facility Management Department at 231-591-3100 or visit our web site at www.ferris.edu/fman.



Learning by doing –
hands on education

academic | MINORS

Two **Minor** options are available to students enrolled in other Baccalaureate or higher level degrees at Ferris State University. These minor options help prepare non-technically oriented students to effectively participate in the facility planning and facility operation process where they may be employed. In addition these minor options help prepare technically oriented students who are entering professions that require management of facilities. The Minors are most appropriate for students in the Architecture and Sustainability, Hospitality Management, Music and Entertainment Business, HVACR, Construction Management and Allied Health programs.

ADMISSION REQUIREMENTS

- Enrolled in a Baccalaureate or higher degree at Ferris State University other than Facility Management.
- While Minor curriculums require specific courses, it is the student's responsibility to obtain general technical knowledge of buildings and construction.

DEGREE REQUIREMENTS

- A minimum of 18 semester credits of prescribed study.
- GPA of 2.0 or more in minor courses.
- 50% of credits must be 300+ level.
- 50% of credits must be Ferris State University credits.

For additional information call the Architecture and Facility Management Department at 231-591-3100 or visit our web site at www.ferris.edu/fman.

FACILITY OPERATIONS MANAGEMENT MINOR

This 19 credit hour minor is most suited for students who expect to be involved in the operations and management of the physical aspects of the facilities in which they practice.

ARCH 112 (4 credits)
Structural Materials, Systems and Codes
ARCH 115 (3 credits)
Interior and Exterior Finishes and Systems
FMAN 321 (3 credits)
Principles of Facility Management
FMAN 322 (3 credits)
Project Management
FMAN 451 (3 credits)
Planning and Budgeting for Operations
HVAC 483 (3 credits)
HVACR Building Systems

FACILITY PLANNING MANAGEMENT MINOR

This 18 or 19 credit hour minor is most suited for students who expect to be involved in the planning and management of the physical aspects of the facilities in which they practice.

Required Courses:

FMAN 321 (3 credits)
Principles of Facility Management
FMAN 322 (3 credits)
Project Management
FMAN 331 (3 credits)
Facility Programming and the Design Process
FMAN 441 (3 credits)
Property Development and Planning

Elective Courses (choose two):

ARCH 112 (4 credits)
Structural Materials, Systems and Codes
ARCH 115 (3 credits)
Interior and Exterior Finishes and Systems
FMAN 431 (3 credits)
Principles of Space Planning
FMAN 432 (3 credits)
Principles of Interior Architecture

CERTIFICATE PROGRAM IN FACILITY MANAGEMENT

This program consists of four courses and is designed for individuals who currently work within the Facility Management profession and desire to broaden their understanding of Facility Management. Individuals with job titles and responsibilities such as facility manager, building manager/supervisor, building owner, facility planner and support staff, architect, architectural technician, designer, furniture industry designer, and facility management service consultant will benefit from these courses.

Courses within the FM Certificate program help prepare you for successful completion of the International Facility Management Association's (IFMA) Certified Facility Management (CFM) exam. This credential sets the industry standard ensuring professional excellence and recognition.

In addition all courses qualify for IFMA CFM maintenance points. Certified Facility Managers must demonstrate a continued commitment to growth and excellence by earning a required number of maintenance points in at least two of the following categories: continuing education, practice, professional involvement, or development of the profession.

ADMISSION REQUIREMENTS:

- Individuals intending to enroll in the program must have background experience in a facility management related area or are currently working towards a degree in a related area of study.
- Minimum of two years of college course work, including courses in Communication and Basic Mathematics.
- Submittal of official college transcript(s).
- Enrollment priority will be given to those individuals who intend to complete all courses.

DEGREE REQUIREMENTS:

- Successful completion of all four courses.

FMAN 321 (3 credits)	Principles of Facility Management
FMAN 322 (3 credits)	Project Management
FMAN 331 (3 credits)	Facility Programming and the Design Process
FMAN 451 (3 credits)	Planning and Budgeting for Operations

TO ENROLL CONTACT:

For additional information call the Architecture and Facility Management Department at 231-591-3100 or visit our web site at www.ferris.edu/fman



Innovative curriculum –
infinite career opportunities

As the profession changes
– the program changes



program CURRICULUM

THIRD YEAR - FALL SEMESTER (15 SEMESTER HOURS)

FMAN 321
Principles of Facility Management
FMAN 332
Digital Applications in Facility Management
FMAN 431
Principles of Space Planning
ENGL 311
Advanced Technical Writing
MGMT 301
Applied Management

THIRD YEAR - SPRING SEMESTER (15 SEMESTER HOURS)

ECON 201
Principles of Microeconomics
FMAN 322
Project Management
FMAN 331
Facility Programming and the Design Process
FMAN 432
Principles of Interior Architecture
BLAW 301
Legal Environment of Business

THIRD YEAR - SUMMER SEMESTER (4 SEMESTER HOURS)

FMAN 393
FM Internship

**FOURTH YEAR - FALL SEMESTER
(16 SEMESTER HOURS)**

FMAN 441

Property Development and Planning

FMAN 451

Planning and Budgeting for Operations

FMAN 489

Capstone Research

ECON 202

Principles of Macroeconomics

MGMT 350

Management Metrics and Decision Making

STQM 260

Introduction to Statistics

**FOURTH YEAR - SPRING SEMESTER
(15 SEMESTER HOURS)**

FMAN 499

Capstone Thesis

HVAC 483

HVACR Building Systems

Elective

Cultural Enrichment Elective

Elective

Management Elective

Elective

Science Elective



course DESCRIPTIONS

FMAN 321 **PRINCIPLES OF FACILITY MANAGEMENT**

Introduction to basic methods, concepts and procedures of facility planning, programming, budgeting, project management, office productivity measurements, and operations management. Emphasis is placed on the facility management process, terminology and organizational development.

FMAN 322 **PROJECT MANAGEMENT**

Overview of facility project management concepts, phases and processes. Course topics include: development of project plans and teams, sequencing of activities, development of schedules, estimating of resources, coordinating and monitoring of facility projects, and review of project delivery methods and contracts.

FMAN 331 **FACILITY PROGRAMMING AND THE DESIGN PROCESS**

Course will enable students to understand the role of the facility manager in working with the organization and the users of space to identify facility related needs and present them to design professionals. Students will also learn the facility manager's role in strategic planning, facilitating the organization's business plan, and working with outside consultants to develop facilities.

FMAN 332 **DIGITAL APPLICATIONS IN FACILITY MANAGEMENT**

Introduction to and survey of digital technology and software for facility management. Students will explore the use of digital technology for project management, space management, evaluating life-cycle costs, and facilitating the operational and maintenance aspects of a facility.

FMAN 393 **FACILITY MANAGEMENT INTERNSHIP**

Ten to fifteen weeks of supervised industry training experience in the Facility Management environment.

FMAN 431 **PRINCIPLES OF SPACE PLANNING**

Introduction to facility space planning concepts; office layouts and furniture systems. Space development and furniture systems will be examined in terms of how they serve the business goals of organizations, including growth and contraction forecasting. The course will include an historical overview of office facilities; development of architectural programs; and teamwork exercises to expose students to multiple roles in the facility development team.

FMAN 432 **PRINCIPLES OF INTERIOR ARCHITECTURE**

Overview of the elements of interior design and their application. Students apply the principles of interior design with regard to program requirements, context, environment, ergonomics, code and regulatory issues. The visual effects and physical attributes of various components of the interior space are studied.

FMAN 441 **PROPERTY DEVELOPMENT AND PLANNING**

Introduction to principles and processes of real estate development. The public sector's role in approving and regulating development will be examined along with the roles and responsibilities of the development team. Leasing practice from the landlord and tenant perspective is examined. Areas of study also include; history of real estate development, market analysis, demographics,

zoning, feasibility studies and finance, and development practices and trends.

FMAN 451 **PLANNING AND BUDGETING FOR OPERATIONS**

Survey of the operating systems within facilities, and the methodologies used to keep those systems operational. Introduction to concepts such as life cycle costs and building diagnostics will be introduced along with methods for estimating and planning staff and financial resources. Common problems associated with selected systems will also be discussed.

FMAN 489 **CAPSTONE RESEARCH**

Development of proposal and preliminary research for Capstone Thesis project. The course will include an introduction to and review of research methods.

FMAN 499 **CAPSTONE ASSESSMENT THESIS**

Development and completion of individual or group thesis projects that reflect understanding of the core competencies of facility management: leadership and management; operation and maintenance; planning and project management; communication; finance; human and environmental factors; quality management and assessment; and real estate.

ARCH 112

STRUCTURAL MATERIALS, SYSTEMS AND CODES

Survey of properties, characteristics, limitations, selection criteria, and graphic interpretation of concrete, steel, masonry and wood used in foundation, substructure, and superstructure building systems. Includes aesthetic, performance, maintainability, and cost/benefit aspects. Introduces major building codes, material and industry standards, and utilization of manufacturers' catalogs.

ARCH 115

INTERIOR AND EXTERIOR FINISHES AND SYSTEMS

Survey of properties, characteristics, limitations, selection criteria, and graphic interpretation of common interior and exterior finish materials and systems used in exterior closure, roofing, and interior construction. Includes aesthetic, performance, maintainability, and cost/benefit aspects.

HVAC 483

HVACR BUILDING SYSTEMS

The study of the HVAC systems and controls found in commercial and industrial buildings for facility managers. Emphasis is placed on the energy utilization, utility rates, and building management systems that optimize comfort and reduce energy costs for building. The course will include site visitations and reports.



Practice-based education –
proficiency in technical skills



Professional career-oriented education –
preparation for the work place

summer | INTERNSHIP

The purpose of the internship experience is to provide a transition from the university curriculum to a practical application found in a professional facility management setting. Theories of facility management and practical applications are explored and tested by the student under close supervision of the cooperating organization and a faculty member from the Ferris program. Evaluation of the experience is conducted by the organization, the student and the faculty member. The student is expected to continually review personal knowledge, skills, accomplishments, and professional growth as they prepare for entry into the profession of facility management.

COURSE POLICIES AND PROCEDURES

- Completion of the third year of the facility management program.
- A minimum of 400 hours of work (typically ten weeks) is required.
- Ten weekly self-assessment reports are required by the student throughout the internship.
- A reflective report on internship experience is required by student at completion of internship.
- A summary poster is required by the student at completion of internship.
- Two evaluations are required by the site supervisor.
- The securing of an internship position is the responsibility of the student; however, program faculty will assist in the process whenever possible.

SAMPLING OF INTERNSHIP SITES:

- Big Cypress National Preserve
Ochopee, Florida
- Collier County Government
Naples, Florida
- DTE Energy
Detroit, Michigan
- Facility Engineering Associates
Washington, D.C.
- Grand Valley State University
Allendale, Michigan
- Hyatt Hotels
- John Ball Zoo
Grand Rapids, Michigan
- Michigan State University
Lansing, Michigan
- Sleeping Bear Dunes
Empire, Michigan
- Smithsonian Institute
Washington, D.C.
- Spectrum Health
Grand Rapids, Michigan
- University of Michigan
Ann Arbor, Michigan
- Van Andel Institute
Grand Rapids, Michigan

program | SCHOLARSHIPS

The following scholarships are available to Ferris Facility Management students through financial support from associations and individuals that support our program.

- Kathy Pruden Memorial IFMA Scholarship. Each year a \$2500 scholarship is presented by the local West Michigan IFMA chapter to a third or fourth-year FM student who has demonstrated scholastic achievement and extracurricular involvement.
- IFMA Foundation Scholarship. Scholarships are annually provided by the IFMA Foundation to promote education and research for the advancement of facility management. Each year scholarships ranging from \$1500 to \$3000 are awarded to Facility Management students who have demonstrated academic accomplishments, involvement in the IFMA student chapter, leadership qualities, and commitment to the profession. In addition to the scholarship, recipients are provided the means to attend World Workplace where they have the opportunity to network with others in the FM community.

Additional scholarships are available at both the college and university level.

faculty | DIRECTORY

Mary Brayton, AIA, LEED Green Associate, Professor
Email: marybrayton@ferris.edu
AAS Arts, Grand Rapids Community College
BS Architecture, University of Michigan
Master of Architecture, University of Michigan

Chris Cospers, AIA, LEED AP, Associate Professor
Email: christophercospers@ferris.edu
Bachelor of Architecture, Mississippi State University
Master of Arts, English, Mississippi State University
Master of Design Studies, Harvard University

Dane Johnson, RA, Registered Historic Architect, Professor
Email: danejohnson@ferris.edu
BS Architecture, Lawrence Technological University
Master of Architecture, Lawrence Technological University
Master of Science in Career and Technical Education, Ferris State University

Diane Nagelkirk, RA, Professor
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BS Architecture, Lawrence Technological University
Master of Architecture, Lawrence Technological University

Dr. Tanzia Sharmin, Associate Professor
Email: tanziaasharmin@ferris.edu
Master of Architecture, Bangladesh University of Engineering and Technology
PhD, Civil and Environmental Engineering, University of Alberta

program | ENROLLMENT

To apply via the internet go to: www.ferris.edu/admissions

The completed application and previous official college transcripts must be submitted to the Admissions Office by February 1 prior to the semester in which the student expects to enroll.

Further information may be obtained by calling the Admissions Office at 231-591-2100 or the Architecture and Facility Management Department Office at 231-591-3100.



Recognized program –
qualified, employable graduates

“The Facility Management program at Ferris State University and its ‘real-world’ curriculum gave me the experiences and tools necessary for a competitive advantage in the workplace and long-term career success; it also laid the foundation for me to achieve the Certified Facility Manager (CFM) status; a credential set by the International Facility Management Association. Thank you Ferris for designing a respected and valued program!”

Dan Roth, CFM

Pfizer, Inc.

AAS in Architectural Technology, Class of 1990

BS in Facility Management, Class of 1992

“My education and experience at Ferris, in both the Architectural Technology and Facility Management programs, resembled a set of blueprints that guided and encouraged understanding, application and creativity. The Facility Management degree gave me the ability to build and transform my career, in rapid time, into something more than I ever expected. Within 8 years, I have worked in 2 countries, 4 metropolitan cities and have become a Director of Facilities for Hyatt Hotels.”

Filip Martin, CFM

Hyatt Hotels & Resorts

AAS in Architectural Technology, Class of 1996

BS in Facility Management, Class of 1997

“As a graduate of the Architectural Technology and Facility Management programs I have been provided with a solid foundation that I have relied on numerous times. The hands-on experience in the studios, the collaborative atmosphere, the faculty and courses, and the focus on both the technical and design aspects of architecture have been most beneficial as a precursor to my graduate level classes and now working as an associate architect.”

Kristen Kuk

Axis Architecture + Interiors, Indianapolis, Indiana

AAS in Architectural Technology, Class of 2008

BS in Facility Management, Class of 2010

MArch Ball State University, Class of 2013

“The Facility Management program at Ferris State taught me networking skills and the theoretical knowledge necessary to advance quickly in my professional career. Immediately after graduating, I was able to use the knowledge I obtained to lead a team of people in re-designing the preventative maintenance module for the U.S. Department of State’s proprietary Global Maintenance Management System, used by 270 U.S. Embassies and Consulates around the world. I have travelled to 15 countries and experienced the global economy first hand. In six months I was able to change how the second largest real estate holder in the world performs maintenance and lead staff at embassies and consulates to be more efficient in their day to day activities.”

Benjamin Glerum

Facility Manager

U.S. Department of State

BS in Facility Management, Class of 2013

FERRIS STATE UNIVERSITY

COLLEGE OF ENGINEERING
TECHNOLOGY

School of Built Environment

Facility Management Program

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