Michigan State University functions as a unit, with its colleges, divisions, schools, and departments serving one another. No single part is independent of the others. The Michigan State University College of Law, through a special affiliation, functions fully as a part of the university, although it remains financially independent.

Most schools and departments offer courses at both the undergraduate and graduate levels. At the undergraduate level, freshman and sophomore students, except when enrolled in James Madison College, Lyman Briggs College, or the Residential College in the Arts and Humanities are enrolled in the Undergraduate University Division. Such students may select a field of study as a major preference; however, the academic responsibility for such students rests solely with the Undergraduate University Division. During the first two years students usually take (1) courses that will fulfill the university requirements as described in the Undergraduate Education section of this catalog and (2) courses appropriate to the particular major, or (3) courses of an exploratory nature. During the junior and senior years, students take courses, whether given by the colleges of the majors or others, which meet the needs of the academic programs. For high-achieving undergraduate students, colleges, schools, departments, and faculty, in cooperation with the Honors College, provide programs to encourage the highest intellectual development and greatest achievement.

At the graduate level, colleges which offer graduate courses have developed graduate programs consistent with the highest national, international, and professional standards of the respective fields.

Study Abroad programs are sponsored by the university through its academic departments and schools, and cooperative arrangements with other universities. The university offers more than 275 programs in over 60 countries on all seven continents.

To provide broader access to its instructional resources, the university offers selected degree programs, certificate programs, and courses at various locations and via the web.

The materials throughout this catalog are intended to be cumulative. The Undergraduate Education section is applicable to undergraduate study, and the Graduate Education section refers to graduate study. The all-university policies and requirements given in the General Information, Policies, Procedures and Regulations section apply to both undergraduate and graduate study. These three sections serve as the foundation for the college statements, and the all-university sections and the college statements serve as the foundation for the department and school statements.

Each college statement addresses the purposes or role of the college in the university; the organizational structure of the college; undergraduate programs, including college policies and requirements for admission and graduation beyond the all-university requirements; and graduate study, including the college policies and requirements for admission and the degrees beyond the all-university requirements. The organization of the department and school statements is similar to that of the college statements.

SESSIONS

The university offers instruction throughout the year during the fall semester, spring semester, and summer sessions.
PERIOD COVERED BY REGISTRATION

The period covered by registration for a given semester or summer session is defined as commencing with the first day of classes as published in the university academic calendar, and extending through the day prior to the start of the first day of classes for the succeeding semester or the first summer session. The delivery of appropriate services requires at least minimum registration for that semester or summer session.

ACCREDITATION

Michigan State University is a member of the Association of Public and Land-grant Universities, Association of American Universities, American Council on Education, American Council of Learned Societies, Association of Graduate Schools, Council of Graduate Schools, Committee on Institutional Cooperation, and International Association of Universities. The university has been accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, 30 North LaSalle Street, Chicago, Illinois 60602-2504, www.ncaclearningcommission.org, 1-312-263-0456. Some individual programs, schools, and colleges have been recognized by the accrediting agencies in their respective fields. For a list, visit www.opb.msu.edu, select "Strategic Planning" and then "Agencies that Accredit MSU."

Information about the accreditation of individual programs, schools, and colleges is included in program descriptions in Academic Programs. Updated program listings may be found at www.reg.msu.edu/ucc/ucc.asp.

EQUAL OPPORTUNITY AND NON-DISCRIMINATION

Michigan State University is committed to the principles of equal opportunity, nondiscrimination and, in the context of employment, affirmative action. University programs, activities, and facilities are available to all without regard to race, color, gender, gender identity, religion, national origin, political persuasion, sexual orientation, marital status, disability, height, weight, veteran status, age or familial status. The university is an affirmative action, equal opportunity employer. In carrying out this commitment, the university is guided by the applicable federal and state laws and regulations and policies adopted by the Board of Trustees.

The university has a comprehensive employment Affirmative Action Plan that includes placement goals for academic and support staff employment and an affirmative action policy for the employment of veterans and persons with disabilities. The Office of Inclusion and Intercultural Initiatives oversees the Plan by reviewing individual academic and support staff hiring recommendations, establishing relations with federal and state civil rights agencies, conducting discrimination complaint investigations, and advising the President and other university administrators on equal opportunity, diversity and inclusion matters.

The All-University Anti-Discrimination Policy applies to all university community members and to education and employment programs and activities and prohibits discrimination and harassment based on age, color, gender, gender identity, disability status, height, marital status, national origin, political persuasion, race, religion, sexual orientation, veteran status or weight. The Office for Inclusion and Intercultural Initiatives provides a system of addressing complaints of prohibited discrimination and harassment. That office reviews and responds to claims of prohibited discrimination and harassment, investigates such claims where necessary and ensures prompt remedial action where discrimination or harassment is found.

For additional information, contact the Office for Inclusion and Intercultural Initiatives, Hannah Administration Building, 426 Auditorium Road, Room 444, 1-517-353-3924, inclusion@msu.edu, or visit www.inclusion.msu.edu.

STUDENT CONSUMER INFORMATION

Michigan State University seeks to make available to prospective and enrolled students full information on all pertinent matters that would affect their attendance at the university. These matters include academic programs, financial aid programs, eligibility requirements for financial aid, cost of attending the institution, refund policy, program integrity (complaints) and, to the extent available, patterns of retention in offered curricula. Information is accessible at www.reg.msu.edu/ROIInfo/HEOAnotices.asp. Information is also available in various university publications, such as this catalog and information brochures for prospective students; or inquiries may be made of appropriate MSU administrative offices and Web sites. Typical sources include:

Office of Admissions
Hannah Administration Building
426 Auditorium Road, Room 250
(For prospective students)
www.admissions.msu.edu

Office of the Controller
Hannah Administration Building
426 Auditorium Road, Room 305
www.ctlr.msu.edu

Office of Financial Aid
Student Services Building
556 E. Circle Drive, Room 252
www.finaid.msu.edu

Office of the Registrar
Hannah Administration Building
426 Auditorium Road, Room 150
(For enrolled students)
www.reg.msu.edu

Additional information on university rules and regulations affecting students is published in the resource guide Spartan Life and other publications and is available at www.msu.edu.

GRADUATION RATES AT MICHIGAN STATE UNIVERSITY

Admission to Michigan State University is based upon academic preparation and ability. To assist students in their educational planning, as well as for institutional planning and reporting, first-time degree/certificate-seeking undergraduate students are included in a cohort each fall semester. This cohort is followed to determine the rate of retention and graduation from Michigan State University.

Decisions by students to complete degree programs in more than four years may vary from personal to programmatic reasons. The most recent Graduation Rate Survey, based upon the 2007 entering cohort, indicates that 78% of that cohort graduated within 6 years, or 150% of the normal time to award. Of the same cohort, 74% graduated within 5 years, and 50% within 4 years. These data compare favorably to graduation statistics from similar institutions. Additionally, some students in the initial cohort will eventually graduate at other institutions through transfer or pre-baccalaureate entry into professional programs.
Depts of instruction at Michigan State University are orga-
nized as follows:

**College of Agriculture and Natural Resources**
- Agricultural, Food, and Resource Economics
- Animal Science
- Biosystems and Agricultural Engineering
- Community Sustainability
- Entomology
- Fisheries and Wildlife
- Food Science and Human Nutrition
- Forestry
- Horticulture
- Packaging
- Planning, Design and Construction
- Plant Biology
- Plant, Soil and Microbial Sciences

**Residential College in the Arts and Humanities**

**College of Arts and Letters**
- Art, Art History, and Design
- English
- Linguistics and Germanic, Slavic, Asian and African Languages
- Philosophy
- Religious Studies
- Romance and Classical Studies
- Theatre
- Program in Women, Gender, and Social Justice
- Writing, Rhetoric and American Cultures

**The Eli Broad College of Business**

**The Eli Broad Graduate School of Management**
- Accounting and Information Systems
- Finance
- Hospitality Business
- Management
- Marketing
- Supply Chain Management

**College of Communication Arts and Sciences**
- Advertising and Public Relations
- Communication
- Communicative Sciences and Disorders
- Journalism
- Telecommunication, Information Studies and Media

**College of Education**
- Counseling, Educational Psychology and Special Education
- Educational Administration
- Kinesiology
- Teacher Education

**College of Engineering**
- Biosystems and Agricultural Engineering
- Chemical Engineering and Materials Science
- Civil and Environmental Engineering
- Computer Science and Engineering
- Electrical and Computer Engineering
- Mechanical Engineering

**College of Human Medicine**
- Anesthesia
- Biochemistry and Molecular Biology
- Emergency Medicine
- Epidemiology and Biostatistics
- Family Medicine
- Medicine
- Microbiology and Molecular Genetics
- Neurology and Ophthalmology
- Obstetrics, Gynecology and Reproductive Biology
- Pediatrics and Human Development

**Pharmacology and Toxicology**
- Physiology
- Psychiatry
- Radiology
- Surgery
- Translation Science and Molecular Medicine

**James Madison College**

**College of Law**

**Lyman Briggs College**

**College of Music**

**College of Natural Science**
- Biochemistry and Molecular Biology
- Biomedical Laboratory Diagnostics Program
- Chemistry
- Entomology
- Food Science and Human Nutrition
- Geological Sciences
- Mathematics
- Microbiology and Molecular Genetics
- Physics and Astronomy
- Physiology
- Plant Biology
- Statistics and Probability
- Zoology

**College of Nursing**

**College of Osteopathic Medicine**
- Biochemistry and Molecular Biology
- Family and Community Medicine
- Microbiology and Molecular Genetics
- Neurology and Ophthalmology
- Osteopathic Manipulative Medicine
- Osteopathic Medical Specialties
- Osteopathic Surgical Specialties
- Pediatrics
- Pharmacology and Toxicology
- Physical Medicine and Rehabilitation
- Physiology
- Psychiatry
- Radiology

**College of Social Science**
- Anthropology
- Criminal Justice
- Economics
- Geography
- History
- Human Development and Family Studies
- Human Resources and Labor Relations
- Planning, Design and Construction
- Political Science
- Psychology
- Social Work
- Sociology
- Program in Women, Gender, and Social Justice

**College of Veterinary Medicine**
- Large Animal Clinical Sciences
- Microbiology and Molecular Genetics
- Pathobiology and Diagnostic Investigation
- Pharmacology and Toxicology
- Physiology
- Small Animal Clinical Sciences

**Office of the Provost**
- Aerospace Studies—Air Force
- Military Science—Army
PROGRAMS and AREAS OF STUDY

Michigan State University offers a wide variety of programs and areas of study that contribute to the overall strength of the university. Although some programs and areas of study are not available as majors, the following list indicates the breadth and depth of opportunities available to students. In addition, special programs, suited to individual needs and purposes may be arranged, particularly at the advanced levels.

Accounting
Actuarial Science
Advertising
Aerospace Studies—Air Force
African American and African Studies
African American History and Culture
African Languages
African Studies
Agribusiness
Agribusiness Management
Agricultural, Food and Resource Economics
Agricultural and Natural Resources Biotechnology
Agriculture
Agriculture, Food and Natural Resource Education
Agronomy
American Legal System
American Studies
Animal Science
Animal Studies: Social Science and Humanities Perspectives
Anthropology
Apparel and Textiles
Apparel and Textile Design
Applied Developmental Science
Applied Engineering Sciences
Applied Mathematics
Applied Spanish Linguistics
Applied Statistics
Arabic
Art and Art History
Art Education
Art History and Visual Culture
Studio Art
Arts and Humanities
Asian Pacific American Studies
Asian Studies
Astrophysics
Astrophysics and Astronomy
Athletic Training
Biochemistry and Molecular Biology
Biochemistry and Molecular Biology/Biotechnology
Biological Science
Biology
Biomedical Laboratory Operations
Biomedical Laboratory Science
Biostatistics
Biosystems Engineering
Biotechnology
Black American and Diasporic Studies
Business Administration
Business Analytics
Business Concepts for Environmental Sustainability and Conservation
Business Research
Cell and Molecular Biology
Canadian Studies
Chemical Engineering
Chemical Physics
Chemistry
Chicano/Latino Studies
Child Development
Chinese
Civil Engineering
Classical Studies
Clinical Laboratory Sciences
Clinical Nurse Specialist
Clinical Social Work
Coaching
Cognitive Science
Commercial Floriculture
Communication
Communication Arts and Sciences-Media and Information Studies
Communicative Sciences and Disorders
Community, Agriculture, Recreation and Resource Studies
Comparative Cultures and Politics
Comparative Medicine and Integrative Biology
Computational Chemistry
Computational Mathematics
Computational Statistics
Computer Engineering
Computer Science and Engineering
Connected Learning
Conservation Law
Construction Management
Corporate Accounting
Counterfeit Pharmaceuticals
Creative Writing
Criminal Justice
Critical Studies in the Teaching of English
Crop and Soil Sciences
Crop Production
Crop Science
Curriculum, Instruction, and Teacher Education
Dairy Production
Dance
Design
Diagnostic Molecular Science
Dietetics
Digital Humanities
Digital Rhetoric and Professional Writing
Documentary Studies
Earth Science
Ecological Food and Farming Systems
Ecology and Evolutionary Biology and Behavior
Economics
Economics of Education
Education
Educational Assessment for K-12 Practitioners
Educational Leadership
Educational Policy
Educational Studies
Educational Psychology and Educational Technology
Educational Technology
Electrical and Computer Engineering
Electrical Engineering
Engineering for International Service
Engineering Mechanics
English
Entrepreneurship
Entomology
Environmental and Resource Economics
Environmental Biology
Environmental Biology/Microbiology
Environmental Biology/Plant Biology
Environmental Biology/Zoology
Environmental Design
Environmental Economics
Environmental Economics and Policy
Environmental Engineering
Environmental Geography
Environmental Geosciences
Environmental Policy
Environmental Science and Policy
Environmental Sciences and Management
Environmental Soil Science
Environmental Studies
Environmental Studies and Agriscience
Environmental Toxicology
Epidemiology
Ethics and Development
Experience Architecture
Family and Child Ecology
Family Community Services
Fiction Film Production
Film Studies
Finance
Fish and Wildlife Disease Ecology and Conservation Medicine
Fisheries and Wildlife
Food and Agricultural Standards
Food Industry Management
Food Processing and Technology
Food Safety
Food Science
Foodservice Management
Foreign Language Teaching
Forensic Science
Forest Carbon Science, Policy and Management
Forestry
French
Game Design and Development
Gender and Global Change
General Business Administration
General Management
General Science
Genetics
Genomics and Molecular Genetics
Geographic Information Science
Geography
Geological Sciences
German
Global and Area Studies
Global Public Health and Epidemiology
Global Studies in the Arts and Humanities
Global Urban Studies
Greek
Grounds Management
Health and Risk Communication
Health Professions Education
Health Promotion
Higher, Adult, and Lifelong Education
Hispanic Cultural Studies
History
History, Philosophy, and Sociology of Science
Horse Management
Hospitality Business
Hospitality Business Real Estate and Development
Human Biology
Human Development and Family Studies
Human Geography
Human Medicine
Human Nutrition
Human Nutrition-Environmental Toxicology
Human Resource Management
Human Resources and Labor Relations
Humanities—Prelaw
Industrial Mathematics
Industrial Relations and Human Resources
Infancy and Early Childhood
Information and Communication Technology for Development
Information Technology
Information Technology Management
Integrated Pest Management
Integrative Management
Integrative Pharmacology
Intellectual Property and Communications Law
Interdisciplinary Humanities
Interdisciplinary Studies in Social Science
Interdisciplinary Studies in Social Science: Social Science Education
International Business
International Public Health
Interior Design
Interior Design and Facilities Management
International Development
International Planning Studies
International Relations
Italian
Japanese
Jazz Studies
Jewish Studies
Journalism
Judicial Administration
K—12 Educational Administration
Kinesiology
Laboratory Research in Pharmacology and Toxicology
Landscape Architecture
Landscape and Nursery
Language and Literacy
Large Animal Clinical Sciences
Latin American and Caribbean Studies
Law Enforcement Intelligence and Analysis
Linguistics
Literacy and Language Instruction
Livestock Production
Management, Strategy and Leadership
Manufacturing Engineering
Manufacturing Management
Marine Ecosystem Management
Marketing
Marketing Research
Materials Science and Engineering
Materials Science and Mechanics
Mathematics
Mathematics, Advanced
Mathematics Education
Measurement and Quantitative Methods
Mechanical Engineering
Media and Communication Technology
Medical Information
Media Arts and Technology
Microbiology
Military Science—Army
Museum Studies
Music
Collaborative Piano
Composition
Composition and Music Theory
Conducting
Education
Jazz Studies
Performance
Theory
Musicology
Muslim Studies
Natural Resource Recreation and Tourism
Neuroscience
Neuroscience-Environmental Toxicology
Nurse Practitioner
Nursing
Nursing Practice
Nutritional Sciences
Operations and Sourcing Management
Organizational Behavior—Human Resource Management
Osteopathic Medicine
Packaging
Pathobiology
Pharmacology and Toxicology
Philosophy
Philosophy and Law
Physical Science
Physics
Physiology
Piano Pedagogy
Plant Biology
Plant Breeding and Genetics
Plant Pathology
Political Economy
Political Science
Political Science—Prelaw
Political Theory and Constitutional Democracy
Portuguese
Postcolonial and Diaspora Literature
Professional Applications in Anthropology
Professional Writing
Program Evaluation
Psychology
Public Health
Public Health Administration
Public Health Informatics
Public Policy
Public Relations
Quantitative Biology
Rehabilitation Counseling
Rehabilitation Counselor Education
Religion in the Americas
Religious Studies
Rhetoric and Writing
Russian
Russian and East European Studies
Sales Communication
School Psychology
Science Education
Science, Technology, Environment and Public Policy
Second Language Studies
Security Management
Serious Game Design and Research
Small Animal Clinical Sciences
Social Relations and Policy
Social Science
Social Work
THE ACADEMIC PROGRAM
Programs and Areas of Study

Sociology
Soil Science
South Asian Languages
Spanish
Spatial Information Processing
Special Education
   Emotional Impairment
   Learning Disabilities
Statistics
Strategic Management
Student Affairs Administration
Supply Chain Management
Sustainable Agriculture and Food Systems
Sustainable Tourism and Protected Area Management
Teaching and Curriculum
Teaching and Learning in Postsecondary Education
Technology Systems Management
Telecommunication, Information Studies and Media
Theatre
Turfgrass Management
Urban and Regional Planning
Urban Education
Veterinary Medicine
Veterinary Technology
Viticulture
Western European Studies
Women, Gender and Social Justice
Women's and Gender Studies
Women's Studies
World Politics
Youth Development
Youth Development Specialist
Youth Program Management and Evaluation
Zoo and Aquarium Management
Zoology
Preprofessional
   Dentistry
   Law
   Medicine
   Optometry
   Osteopathy
   Podiatry
Theology
Veterinary Medicine

DEGREES

Michigan State University grants the following degrees upon satisfactory completion of appropriate programs of study in the departments, schools, and colleges.

Bachelor of Arts .................................. B.A.
Bachelor of Fine Arts ............................ B.F.A.
Bachelor of Landscape Architecture .............. B.L.A.
Bachelor of Music ................................ B.Mus.
Bachelor of Science ................................ B.S.
Bachelor of Science in Nursing .................... B.S.N.
Juris Doctor ..................................... J.D.
Master of Arts ................................... M.A.
Master of Arts for Teachers ....................... M.A.T.
Master of Business Administration ............... M.B.A.
Master of Fine Arts ................................ M.F.A.
Master of International Planning Studies ........ M.I.P.S.
Master of Human Resources and Learning Relations . M.H.R.L.
Master of Jurisprudence .......................... M.J.
Master of Laws .................................. L.L.M.
Master of Music .................................. M.Mus.
Master of Public Policy ........................... M.P.P.
Master of Science in Nursing ..................... M.S.N.
Master of Science ................................ M.S.
Master of Social Work ............................ M.S.W.
Master of Urban and Regional Planning ........... M.U.R.P.
Educational Specialist ............................ Ed.S.
Doctor of Education ............................... Ed.D.
Doctor of Medicine ................................ M.D.
Doctor of Musical Arts ............................ D.M.A.
Doctor of Nursing Practice ........................ D.N.P.
Doctor of Osteopathic Medicine ................... D.O.

Doctor of Philosophy ............................ Ph.D.
Doctor of Veterinary Medicine .................... D.V.M.

Undergraduate programs and degree requirements are described in a section entitled Undergraduate Education. Graduate programs and degree requirements as well as dual degree programs and joint degree programs are described in a section devoted to Graduate Education. For detailed information about the programs of study and requirements in the colleges and their schools and departments, the section in Academic Programs describing each college should be consulted.

TEACHER CERTIFICATION

For information about teacher certification opportunities, options, and requirements, refer to the statement on TEACHER CERTIFICATION in the Department of Teacher Education section of this catalog.

COURSE DESIGNATIONS

Throughout the programs of study given in this section, courses are identified either by course subject codes, course numbers, and course titles (example: CSE 101 Computing Concepts and Competencies) or by course names and course numbers (example: Computer Science and Engineering 101).

Additional information about specific courses may be found in the frequently updated online version of Course Descriptions at: www.reg.msu.edu/Courses.asp.

To assist in locating information about specific courses in the Course Descriptions, the course subject codes are listed below in alphabetical order. For each subject code, the corresponding name is given.

SUBJECT CODE NAME

AAAS African American and African Studies
ABM Agribusiness Management
ACC Accounting
ACR Community, Agriculture, Recreation and Resource Studies
ADV Advertising
AE Agricultural Engineering
AEE Agriculture and Natural Resources Education and Communication Systems
AFR African Languages
AFRE Agricultural, Food, and Resource Economics
AL Arts and Letters
AMS American Studies
ANP Anthropology
ARS Animal Science
ANTR Human Anatomy
ARB Arabic
AS Aerospace Studies
ASN Asian Languages
AST Astronomy and Astrophysics
AT Institute of Agricultural Technology
ATD Apparel and Textile Design
BE Biosystems Engineering
BMD Biomedical Laboratory Diagnostics
BMB Biochemistry and Molecular Biology
BME Biomedical Engineering
BMS Biomedical Science
BS Biological Science
BUS Business
CAS Communication Arts and Sciences
CE Civil Engineering
CHE Chemical Engineering
CHS Chinese
CJ Criminal Justice
CLA Classical Studies
THE ACADEMIC PROGRAM
University Organization

Refer to the Michigan State University home page for information about the central administration; the academic organization of the university; the academic governance system including Faculty Senate, University Council standing committees, advisory consultative committees and university student–faculty judicials; administrative advisory committees; and Board established committees, www.msu.edu.

The names of the persons who hold administrative positions and who serve on the committees are included at this site: www.msu.edu/about/thisismsu/board-admin/index.html.