UNIVERSITY OFFICE HOURS
Administrative offices are open Monday through Friday 8:00 a.m. to 5:00 p.m. Unless posted otherwise. The University observes six legal holidays—New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas. Offices are also closed on the Friday following Thanksgiving and the day preceding and/or following Christmas and New Year’s Day.

The University reserves the right to limit enrollments and to change requirements for enrollment in both programs and courses as necessary. When enrollment limitations are imposed, every reasonable effort will be made to provide alternatives for students affected.

It is the responsibility of each student to be aware of and understand University regulations as published.

Courses are shown as they existed at the time of preparation of this publication, but are subject to change as budget adjustments, enrollment changes, and personnel changes are encountered. Some courses and certain components of a course (i.e. credits, title, etc.) listed here have effective dates later than the upcoming academic year. These are listed to assist with future planning. Students should consult with their academic adviser to learn which courses fulfill their specific degree requirements.

The web-based version of the Course Descriptions is updated monthly during the academic year. For up-to-date information, visit www.reg.msu.edu/Courses/search.asp.
The complete listing of undergraduate, graduate-professional, and graduate level courses is located at www.reg.msu.edu/Courses/search.asp.

For information about courses offered through the Institute of Agricultural Technology, contact the Institute of Agricultural Technology in Room 120 Agriculture Hall.

**COURSE NUMBERS**

**001-099 Non-Credit Courses**

Courses with these numbers are offered by the University to permit students to make up deficiencies in previous training or to improve their facility in certain basic skills without earning credit.

For information about remedial-developmental-preparatory courses, consult the *Undergraduate Education* section of this catalog.

**100-299 Undergraduate Courses**

Courses with these numbers are for undergraduate students. They carry no graduate credit, although graduate students may be admitted to such courses in order to make up prerequisites or to gain a foundation for advanced courses.

For information about remedial-developmental-preparatory courses, consult the *Undergraduate Education* section of this catalog.

**300-499 Advanced Undergraduate Courses**

Courses with these numbers are for advanced undergraduate students. They constitute the advanced portion of an undergraduate program leading to the bachelor's degree. A graduate student may carry 400 level courses for credit upon approval of the student's major department or school. In exceptional cases, a graduate student may petition the dean of his or her college, in writing, for approval of a 300 level course for graduate credit.

**VARIABLE CREDIT COURSES**

For each variable credit course, the range of credits for which a student may enroll in a given semester and the maximum number of credits that a student may earn in a course with a reenrollment provision shall be specified.
312 Mass Transfer and Separations

Spring. 4(3-2) A student may earn a maximum of 8 credits in all reenrollments for this course. Interdepartmental with Biosystems Engineering.

P: (CHE 201 and MTH 235 or concurrently) RB: Knowledge of basic calculus. C: ECE 201 concurrently. R: Open only to students in the College of Engineering. SA: EE 200 Diffusion. Mass transfer coefficients. Design of counter-current separation systems, both stagewise and continuous. Distillation, absorption, extraction. Multicomponent separations.

To understand the characteristics of a course, consider each of the five categories depicted below.

A The course number and title and, if existent, the course number suffix (Ex: 312H or 1121). The suffixes are:

H = Honors Course
1 = Type 1 Remedial-Developmental Preparatory Course
2 = Type 2 Remedial-Developmental Preparatory Course
3 = Type 3 Remedial-Developmental Preparatory Course
4 = Type 4 Remedial-Developmental Preparatory Course
5 = Type 5 Remedial-Developmental Preparatory Course

For additional information about remedial–developmental–preparatory courses, consult the Academic Programs section of the catalog.

B The designation code for a Tier II writing course in parentheses following the course title. For additional information, refer to the statement on Writing Requirement in the Academic Programs section of catalog.

(W) – Tier II writing course

C The diversity designation code for an Integrative Studies course in parentheses following the title. For additional information, refer to Integrative Studies in the Academic Programs section of the catalog.

(I) – international and multicultural diversity
(N) – national diversity
(D) – national diversity, and international and multicultural diversity

D Information about the semester of offering, credits and instructional model, reenrollment provision, and interdepartmental status.

The semester(s) the course is authorized to be given is identified. Lack of staff or low student enrollment may preclude offering the course every semester for which it is authorized.

The semester credits are designated to include class-hours-a week 4(3–2) where:

4 = Number of semester credits.
3 = Number of class hours a week in lecture/recitation/discussion.
2 = Number of class hours a week in a laboratory.

If the credit is indicated to be variable, the number of credits is to be determined at the time of enrollment. If the course is a non-credit course, the credit-equivalent is given in brackets.

Reenrollment provision is identified.

Interdepartmental course status is identified.

C Information about prior academic preparation and student access to the course.

P: Prerequisite = a course to be completed either prior to, or concurrently with, another course. A prerequisite is identified by course subject code and number. The course subject codes and corresponding names are listed on the following pages. When a student tries to enroll the Student Information System (SIS) will verify that the prerequisite is fulfilled.

RB: Recommended Background = prior academic work, experience, or other qualifications that are recommended, but not required, and which will not be monitored (either in SIS or by the unit). Recommended work may provide some background that will be helpful and faculty want to signal that to potential enrollees. Such background is not essential to success in the course, nor can faculty assume that students who enroll will have such knowledge.

C: Corequisite = a course that must be completed concurrently with another course. A corequisite is identified by course subject code and number. The course subject codes and corresponding names are listed on the following pages.

R: Restriction = a limitation on student access to the course. For example, a course may be available only to juniors and seniors, or to students in a specified major, department, or college.

SA: Semester Alias = a course identified as the equivalent of another course.

A student who is unsure of eligibility for enrolling in a course should contact the department, school, or college that administers the course.

D A brief description of the course.
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 Course Descriptions section of the catalog or in its frequently updated online version available at: www.reg.msu.edu/Courses.

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 CODES

AAAS African American and African Studies
ABM Agribusiness Management
ACC Accounting
ADV Advertising
AE Agricultural Engineering
AESD Applied Engineering Sciences
AFR African Languages
AFRE Agricultural, Food, and Resource Economics
AL Arts and Letters
AMS American Studies
ANP Anthropology
ANR Agriculture and Natural Resources
ANS 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
ATM Agricultural Technology and Systems Management
BE Biosystems Engineering
BLD Biomedical Laboratory Diagnostics
BMB Biochemistry and Molecular Biology
BME Biomedical Engineering
BMS BioMolecular Science
BS Biological Science
BUS Business
CAS Communication Arts and Sciences
CE Civil Engineering
CEM Chemistry
CEP Counseling, Educational Psychology and Special Education
CHE Chemical Engineering
CHS Chinese
CJ Criminal Justice
CLA Classical Studies
CLS Chicano/Latino Studies
CMB Cell and Molecular Biology
CMBA Corporate MBA Program
CMP Construction Management Program
CMSE Computational Mathematics, Science, and Engineering
COM Communication
CSD Communicative Sciences and Disorders
CSE Computer Science and Engineering
CSS Crop and Soil Sciences
CSUS Community Sustainability
DAN Dance
EAD Educational Administration
EC Economics
ECE Electrical and Computer Engineering
ED Education
EEP Environmental Economics and Policy
EGR Engineering
EM Emergency Medicine
EMB Executive MBA
ENE Environmental Engineering
ENG English
ENT Entomology
EPI Epidemiology
ES Earth Science
ESL English as a Second Language
ESP Environmental Science and Policy
FCM Family and Community Medicine
FI Finance
FIM Food Industry Management
FLM Film Studies
FLT Foreign Language Teaching
FM Family Medicine
FOR Forestry
FRN French
FRS Forensic Science
FSC Food Science
FW Fisheries and Wildlife
GAL General Business and Business Law
GEN Genetics
GEO Geography
GLG Geological Sciences
GLT Foreign Language Teaching
FM Family Medicine
GRK Greek
GRM German
GSAH Global Studies in the Arts and Humanities
GUSB Global Urban Studies Program
HA History of Art
HB Hospitality Business
HDFS Human Development and Family Studies
HEB Hebrew
HED Human Environment and Design
HM Human Medicine
HNF Human Nutrition and Foods
HRLR Human Resources and Labor Relations
HRT Horticulture
HST History
IAH Integrative Studies in Arts and Humanities
IBIO Integrative Biology
IDES Interior Design
IM Internal Medicine
ISB Integrative Studies in Biological Sciences
ISE Integrated Science Education
ISP Integrative Studies in Physical Sciences
ISS Integrative Studies in Social, Behavioral and Economic Sciences
ITAL Italian
ITM Information Technology Management
JPN Japanese
JRN Journalism
JS Jewish Studies
KIN Kinesiology
KOR Korean
LA Landscape Architecture
LAW MSU College of Law
LB Lyman Briggs
LCS Large Animal Clinical Sciences
LIN Linguistics
LLT Language, Learning and Teaching
LLT Language, Learning and Teaching
LTN Latin
<table>
<thead>
<tr>
<th>Code</th>
<th>Program Name</th>
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<td>Master of Business Administration</td>
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<tr>
<td>MC</td>
<td>James Madison College</td>
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<td>ME</td>
<td>Mechanical Engineering</td>
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<td>MED</td>
<td>Medicine</td>
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<td>Management</td>
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<td>Media and Information</td>
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<td>MMG</td>
<td>Microbiology and Molecular Genetics</td>
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<td>OST</td>
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<td>PDC</td>
<td>Planning, Design and Construction</td>
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<td>Pathobiology and Diagnostic Investigation</td>
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