ACADEMIC ORIENTATION PROGRAM

COURSE DESCRIPTIONS 2007-2008

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.

COURSE LISTINGS

A **312 Mass Transfer and Separations**

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

C 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

D Diffusion. Mass transfer coefficients. Design of countercurrent 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.

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

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 multi cultural diversity

B 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/search.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 CODES

ABM	Agribusiness Management
ACC	Accounting
ACR	Community, Agriculture, Recreation and Resource Studies
ADV	Advertising
AE	Agricultural Engineering
AEC	Agricultural Economics
AEE	Agriculture and Natural Resources Education and Communication Systems
AFR	African Languages
AL	Arts and Letters
AMS	American Studies
ANP	Anthropology
ANR	Agriculture and Natural Resources
ANS	Animal Science
ANTR	Human Anatomy
ANTV	Veterinary Anatomy
ARB	Arabic
AS	Aerospace Studies
ASN	Asian Languages
AST	Astronomy and Astrophysics
AT	Institute of Agricultural Technology
ATM	Agricultural Technology and Systems Management
BE	Biosystems Engineering
BLD	Biomedical Laboratory Diagnostics
BMB	Biochemistry and Molecular Biology
BME	Biomedical Engineering
BS	Biological Science
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
CMB	Cell and Molecular Biology
CMP	Construction Management Program
COM	Communication
CSD	Communicative Sciences and Disorders
CSE	Computer Science and Engineering
CSS	Crop and Soil Sciences
DAN	Dance
EAD	Educational Administration
EC	Economics
ECE	Electrical and Computer Engineering
ED	Education
EEP	Environmental Economics and Policy
EGR	Engineering
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
FCE	Family and Child Ecology
FCM	Family and Community Medicine
FI	Finance
FIM	Food Industry Management
FMP	Family Practice
FOR	Forestry
FRN	French
FRS	Forensic Science
FSC	Food Science
FW	Fisheries and Wildlife
GBL	General Business and Business Law
GEN	Genetics
GEO	Geography
GLG	Geological Sciences
GRK	Greek
GRM	German
HA	History of Art
HB	Hospitality Business
HEB	Hebrew
HED	Human Environment and Design
HM	Human Medicine
HNF	Human Nutrition and Foods
HRT	Horticulture
HST	History
IAH	Integrative Studies in Arts and Humanities
IDES	Interior Design
IM	Internal Medicine
ISB	Integrative Studies in Biological Sciences
ISP	Integrative Studies in Physical Sciences
ISS	Integrative Studies in Social, Behavioral and Economic Sciences
ITL	Italian
ITM	Information Technology Management
JPN	Japanese
JRN	Journalism
KIN	Kinesiology
LA	Landscape Architecture
LBS	Lyman Briggs School
LCS	Large Animal Clinical Sciences
LIN	Linguistics
LIR	Labor and Industrial Relations
LL	Linguistics and Languages
LLT	Language, Learning and Teaching
LTN	Latin
MBA	Master of Business Administration
MC	James Madison College
ME	Mechanical Engineering
MED	Medicine
MGT	Management
MMG	Microbiology and Molecular Genetics
MS	Military Science
MSC	Marketing and Supply Chain Management
MSE	Materials Science and Engineering
MT	Medical Technology
MTH	Mathematics
MUS	Music
NEU	Neuroscience
NOP	Neurology and Ophthalmology

NSC	Natural Science
NUR	Nursing
OGR	Obstetrics, Gynecology, and Reproductive Biology
OMM	Osteopathic Manipulative Medicine
OSS	Osteopathic Surgical Specialities
OST	Osteopathic Medicine
PDC	Planning, Design and Construction
PED	Pediatrics
PHD	Pediatrics and Human Development
PHL	Philosophy
PHM	Pharmacology and Toxicology
PHY	Physics
PIM	Integrative Management
PKG	Packaging
PLB	Plant Biology
PLP	Plant Pathology
PLS	Political Science
PMR	Physical Medicine and Rehabilitation
PPL	Public Policy
PRR	Park, Recreation and Tourism Resources
PRT	Portuguese
PSC	Psychiatry
PSL	Physiology
PSY	Psychology
PTH	Pathology
QB	Quantitative Biology
RAD	Radiology
RCAH	Residential College in the Arts and Humanities
RD	Resource Development
REL	Religious Studies
RET	Retailing
ROM	Romance Languages
RUS	Russian
SCS	Small Animal Clinical Sciences
SME	Science and Mathematics Education
SOC	Sociology
SPN	Spanish
SSC	Social Science
STA	Studio Art
STT	Statistics and Probability
SUR	Surgery
SW	Social Work
TC	Telecommunication
TE	Teacher Education
THR	Theatre
TSM	Technology Systems Management
UGS	Undergraduate Studies
UP	Urban Planning
VM	Veterinary Medicine
WRA	Writing, Rhetoric and American Cultures
WS	Women's Studies
ZOL	Zoology