

# Course Descriptions

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The course descriptions are arranged first in alphabetical order according to course prefix reflecting the department or discipline of the course. Some courses are cross-listed, indicating that they are offered in two or more departments or disciplines. Within each of the prefix groups, the course descriptions are arranged by course number. Numbers 100-299 are courses intended primarily for freshmen and sophomores. Numbers 300-499 are courses intended primarily for juniors and seniors; numbers 490-498 are seminar, project, or special topics courses; number 499 is for undergraduate research.

Courses numbered 500 - 600 are taught at the Masters level and most are available to advanced undergraduates. Doctoral courses are numbered 700 - 899. Graduate courses numbered at the 500 and 700 levels are letter graded (A+ through F), while 600 and 800 level courses are S/U graded. Courses regularly letter graded (A+ through F) may not be taken for S/U grading by graduate students. Courses numbered in the 900 series are open to College of Veterinary Medicine students.

A typical course description shows the prefix, number, and title followed by prerequisite, credit and offering information. Prerequisites are courses or levels of achievement that a student is expected to have completed successfully prior to enrolling in a course. Corequisites are courses which should be taken concurrently by students who have not previously completed the corequisites. Prerequisites or corequisites for a given course may be waived by the instructor of the course or section. It is the student's responsibility to satisfy prerequisites, or obtain from the instructor written waiver of prerequisites, for any course in which he or she may enroll. Failure to satisfy prerequisites may result in removal from enrollment in the course. Consent of the department is required for all practicum and individual special topics or special problems courses as well as internships and thesis or dissertation research. Some courses also have restrictive statements, such as "Credit in both MA 141 and MA 131 is not allowed." Restrictive statements for a given course may be waived only by a college dean.

An example of credit information is: **ACC 200 Introduction to Managerial Accounting 3.**The 3 indicates the number of semester hours credit awarded for satisfactory completion of the course. Some courses are offered for variable credit, and a listing of 1-6 indicates that from one to six semester hours of credit may be earned as arranged by the department writing the course.

## A

- Academy of Data Science (DSC) (<http://catalog.ncsu.edu/course-descriptions/dsc/>)
- Accounting (ACC) (<http://catalog.ncsu.edu/course-descriptions/acc/>)
- Adult & Higher Education (EAC) (<http://catalog.ncsu.edu/course-descriptions/eac/>)
- Advanced Analytics (AA) (<http://catalog.ncsu.edu/course-descriptions/aa/>)
- Aerospace Studies (AS) (<http://catalog.ncsu.edu/course-descriptions/as/>)
- Africana Studies (AFS) (<http://catalog.ncsu.edu/course-descriptions/afs/>)
- Agricultural and Extension Education (AEE) (<http://catalog.ncsu.edu/course-descriptions/aee/>)

- Agricultural Economics (ARE) (<http://catalog.ncsu.edu/course-descriptions/are/>)
- Agricultural Institute (AGI) (<http://catalog.ncsu.edu/course-descriptions/agi/>)
- Agriculture and Life Sciences (ALS) (<http://catalog.ncsu.edu/course-descriptions/als/>)
- Animal Science (ANS) (<http://catalog.ncsu.edu/course-descriptions/ans/>)
- Anthropology (ANT) (<http://catalog.ncsu.edu/course-descriptions/ant/>)
- Applied Ecology (AEC) (<http://catalog.ncsu.edu/course-descriptions/aec/>)
- Architecture (ARC) (<http://catalog.ncsu.edu/course-descriptions/arc/>)
- Art and Design (ADN) (<http://catalog.ncsu.edu/course-descriptions/adn/>)
- Arts Studies (ARS) (<http://catalog.ncsu.edu/course-descriptions/ars/>)
- Arts Village (AVS) (<http://catalog.ncsu.edu/course-descriptions/avs/>)

## B

- Biochemistry (BCH) (<http://catalog.ncsu.edu/course-descriptions/bch/>)
- Biological and Agricultural Engineering (BAE) (<http://catalog.ncsu.edu/course-descriptions/bae/>)
- Biological and Agricultural Engineering Technology (BAET) (<http://catalog.ncsu.edu/course-descriptions/baet/>)
- Biological Sciences (BIO) (<http://catalog.ncsu.edu/course-descriptions/bio/>)
- Biomanufacturing Training Education Center (BEC) (<http://catalog.ncsu.edu/course-descriptions/bec/>)
- Biomathematics (BMA) (<http://catalog.ncsu.edu/course-descriptions/bma/>)
- Biomedical Engineering (BME) (<http://catalog.ncsu.edu/course-descriptions/bme/>)
- Bioprocessing (BBS) (<http://catalog.ncsu.edu/course-descriptions/bbs/>)
- Biotechnology (BIT) (<http://catalog.ncsu.edu/course-descriptions/bit/>)
- Business Administration (MBA) (<http://catalog.ncsu.edu/course-descriptions/mba/>)
- Business Management (BUS) (<http://catalog.ncsu.edu/course-descriptions/bus/>)

## C

- Chemical Engineering (CHE) (<http://catalog.ncsu.edu/course-descriptions/che/>)
- Chemistry (CH) (<http://catalog.ncsu.edu/course-descriptions/ch/>)
- Civil Engineering (CE) (<http://catalog.ncsu.edu/course-descriptions/ce/>)
- College of Natural Resources (CNR) (<http://catalog.ncsu.edu/course-descriptions/cnr/>)
- College of Sciences (COS) (<http://catalog.ncsu.edu/course-descriptions/cos/>)
- Communication (COM) (<http://catalog.ncsu.edu/course-descriptions/com/>)
- Communication Rhetoric & Digital Media (CRD) (<http://catalog.ncsu.edu/course-descriptions/crd/>)
- Comparative Biological Science (CBS) (<http://catalog.ncsu.edu/course-descriptions/cbs/>)

- Comparative Literature (CL) (<http://catalog.ncsu.edu/course-descriptions/cl/>)
- Computer Science (CSC) (<http://catalog.ncsu.edu/course-descriptions/csc/>)
- Cooperative Education (COP) (<http://catalog.ncsu.edu/course-descriptions/cop/>)
- Counselor Education (ECD) (<http://catalog.ncsu.edu/course-descriptions/e cd/>)
- Crop Science (CS) (<http://catalog.ncsu.edu/course-descriptions/cs/>)
- Curriculum and Instruction (ECI) (<http://catalog.ncsu.edu/course-descriptions/eci/>)

## D

- Dance (DAN) (<http://catalog.ncsu.edu/course-descriptions/dan/>)
- Design (D) (<http://catalog.ncsu.edu/course-descriptions/d/>)
- Design courses for Graduate Students (DDN) (<http://catalog.ncsu.edu/course-descriptions/ddn/>)
- Design Studies (DS) (<http://catalog.ncsu.edu/course-descriptions/ds/>)

## E

- Ecology (ECO) (<http://catalog.ncsu.edu/course-descriptions/eco/>)
- Economics (EC) (<http://catalog.ncsu.edu/course-descriptions/ec/>)
- Educ Leadership & Program Eval (ELP) (<http://catalog.ncsu.edu/course-descriptions/elp/>)
- Education (ED) (<http://catalog.ncsu.edu/course-descriptions/ed/>)
- Educational Psychology (EDP) (<http://catalog.ncsu.edu/course-descriptions/edp/>)
- EGR-Engineering Master's (EGR) (<http://catalog.ncsu.edu/course-descriptions/egr/>)
- Electrical and Computer Engineering (ECE) (<http://catalog.ncsu.edu/course-descriptions/ece/>)
- Elementary Education (ELM) (<http://catalog.ncsu.edu/course-descriptions/elm/>)
- Engineering (E) (<http://catalog.ncsu.edu/course-descriptions/e/>)
- English (ENG) (<http://catalog.ncsu.edu/course-descriptions/eng/>)
- Entomology (ENT) (<http://catalog.ncsu.edu/course-descriptions/ent/>)
- Entrepreneurship in Music and the Arts (EMA) (<http://catalog.ncsu.edu/course-descriptions/ema/>)
- Entrepreneurship Initiative (EI) (<http://catalog.ncsu.edu/course-descriptions/ei/>)
- Environmental Assessment (EA) (<http://catalog.ncsu.edu/course-descriptions/ea/>)
- Environmental Science (ES) (<http://catalog.ncsu.edu/course-descriptions/es/>)
- Environmental Technology (ET) (<http://catalog.ncsu.edu/course-descriptions/et/>)

## F

- Fashion and Textile Design (FTD) (<http://catalog.ncsu.edu/course-descriptions/ftd/>)
- Fashion and Textile Management (FTM) (<http://catalog.ncsu.edu/course-descriptions/ftm/>)
- Feed Mill (FM) (<http://catalog.ncsu.edu/course-descriptions/fm/>)
- Fiber and Polymer Science (FPS) (<http://catalog.ncsu.edu/course-descriptions/fps/>)

- Financial Mathematics (FIM) (<http://catalog.ncsu.edu/course-descriptions/fim/>)
- Fisheries & Wildlife Sciences (FW) (<http://catalog.ncsu.edu/course-descriptions/fw/>)
- Food Science (FS) (<http://catalog.ncsu.edu/course-descriptions/fs/>)
- Food Science (FSA) (<http://catalog.ncsu.edu/course-descriptions/fsa/>)
- Foreign Language - Chinese (FLC) (<http://catalog.ncsu.edu/course-descriptions/flc/>)
- Foreign Language - English (FLE) (<http://catalog.ncsu.edu/course-descriptions/fle/>)
- Foreign Language - French (FLF) (<http://catalog.ncsu.edu/course-descriptions/flf/>)
- Foreign Language - German (FLG) (<http://catalog.ncsu.edu/course-descriptions/flg/>)
- Foreign Language - Greek (GRK) (<http://catalog.ncsu.edu/course-descriptions/grk/>)
- Foreign Language - Hindi (FLN) (<http://catalog.ncsu.edu/course-descriptions/fln/>)
- Foreign Language - Italian (FLI) (<http://catalog.ncsu.edu/course-descriptions/fli/>)
- Foreign Language - Japanese (FLJ) (<http://catalog.ncsu.edu/course-descriptions/flj/>)
- Foreign Language - Latin (LAT) (<http://catalog.ncsu.edu/course-descriptions/lat/>)
- Foreign Language - Persian (PER) (<http://catalog.ncsu.edu/course-descriptions/per/>)
- Foreign Language - Portuguese (FLP) (<http://catalog.ncsu.edu/course-descriptions/flp/>)
- Foreign Language - Russian (FLR) (<http://catalog.ncsu.edu/course-descriptions/flr/>)
- Foreign Language - Spanish (FLS) (<http://catalog.ncsu.edu/course-descriptions/fls/>)
- Foreign Language-Classical Studies (CLA) (<http://catalog.ncsu.edu/course-descriptions/cla/>)
- Foreign Languages (FL) (<http://catalog.ncsu.edu/course-descriptions/fl/>)
- Foreign Languages and Literatures - Arabic (FLA) (<http://catalog.ncsu.edu/course-descriptions/fla/>)
- Forestry (FOR) (<http://catalog.ncsu.edu/course-descriptions/for/>)

## G

- Genetic Engineering and Society (GES) (<http://catalog.ncsu.edu/course-descriptions/ges/>)
- Genetics (GN) (<http://catalog.ncsu.edu/course-descriptions/gn/>)
- Geographic Information Systems (GIS) (<http://catalog.ncsu.edu/course-descriptions/gis/>)
- Geography (GEO) (<http://catalog.ncsu.edu/course-descriptions/geo/>)
- Global Knowledge (GK) (<http://catalog.ncsu.edu/course-descriptions/gk/>)
- Global Public Health (GPH) (<http://catalog.ncsu.edu/course-descriptions/gph/>)
- Graduate Economics (ECG) (<http://catalog.ncsu.edu/course-descriptions/ecg/>)
- Graphic Communications (GC) (<http://catalog.ncsu.edu/course-descriptions/gc/>)

- Graphic Design (GD) (<http://catalog.ncsu.edu/course-descriptions/gd/>)

## H

- Health and Exercise Studies Minor (HESM) (<http://catalog.ncsu.edu/course-descriptions/hesm/>)
- Health Exercise Studies Dance (HESD) (<http://catalog.ncsu.edu/course-descriptions/hesd/>)
- Health Exercise Studies Fitness (HESF) (<http://catalog.ncsu.edu/course-descriptions/hesf/>)
- Health Exercise Studies Outdoor (HESO) (<http://catalog.ncsu.edu/course-descriptions/heso/>)
- Health Exercise Studies Racquet (HESR) (<http://catalog.ncsu.edu/course-descriptions/hesr/>)
- Health Exercise Studies Specialty (HESS) (<http://catalog.ncsu.edu/course-descriptions/hess/>)
- Health Exercise Studies Team (HEST) (<http://catalog.ncsu.edu/course-descriptions/hest/>)
- HESA - Health Exercise Aquatics (HESA) (<http://catalog.ncsu.edu/course-descriptions/hesa/>)
- History (HI) (<http://catalog.ncsu.edu/course-descriptions/hi/>)
- History of Art (HA) (<http://catalog.ncsu.edu/course-descriptions/ha/>)
- Honors (HON) (<http://catalog.ncsu.edu/course-descriptions/hon/>)
- Horticulture Science (HS) (<http://catalog.ncsu.edu/course-descriptions/hs/>)
- Humanities and Social Sciences (HSS) (<http://catalog.ncsu.edu/course-descriptions/hss/>)
- Humanities (HUM) (<http://catalog.ncsu.edu/course-descriptions/hum/>)
- Humanities and Global Knowledge (HUMG) (<http://catalog.ncsu.edu/course-descriptions/humg/>)
- Humanities and U.S. Diversity (HUMU) (<http://catalog.ncsu.edu/course-descriptions/humu/>)

## I

- Immunology (IMM) (<http://catalog.ncsu.edu/course-descriptions/imm/>)
- Industrial and Systems Engineering (ISE) (<http://catalog.ncsu.edu/course-descriptions/ise/>)
- Industrial Design (ID) (<http://catalog.ncsu.edu/course-descriptions/id/>)
- Integrated Manufacturing Systems (IMS) (<http://catalog.ncsu.edu/course-descriptions/ims/>)
- Interdisciplinary Perspectives (IPGE) (<http://catalog.ncsu.edu/course-descriptions/ipge/>)
- Interdisciplinary Perspectives and Global Knowledge (IPGK) (<http://catalog.ncsu.edu/course-descriptions/ipgk/>)
- Interdisciplinary Perspectives and U.S. Diversity (IPUS) (<http://catalog.ncsu.edu/course-descriptions/ipus/>)
- Interdisciplinary Studies (IDS) (<http://catalog.ncsu.edu/course-descriptions/ids/>)
- International Studies (IS) (<http://catalog.ncsu.edu/course-descriptions/is/>)
- International Studies (MIS) (<http://catalog.ncsu.edu/course-descriptions/mis/>)

## L

- Landscape Architecture (LAR) (<http://catalog.ncsu.edu/course-descriptions/lar/>)
- Leadership in the Public Sector (LPS) (<http://catalog.ncsu.edu/course-descriptions/lps/>)
- Liberal Studies (MLS) (<http://catalog.ncsu.edu/course-descriptions/mls/>)
- Life Sciences First Year (LSC) (<http://catalog.ncsu.edu/course-descriptions/lsc/>)
- Logic (LOG) (<http://catalog.ncsu.edu/course-descriptions/log/>)

## M

- Management Innovation Entrepreneurship (MIE) (<http://catalog.ncsu.edu/course-descriptions/mie/>)
- Management (M) (<http://catalog.ncsu.edu/course-descriptions/m/>)
- Marine, Earth, and Atmospheric Sciences (MEA) (<http://catalog.ncsu.edu/course-descriptions/mea/>)
- Materials Science and Engineering (MSE) (<http://catalog.ncsu.edu/course-descriptions/mse/>)
- Math & Science Education (EMS) (<http://catalog.ncsu.edu/course-descriptions/ems/>)
- Math in Agriculture and Related Sciences (MAA) (<http://catalog.ncsu.edu/course-descriptions/maa/>)
- Mathematical Sciences (MSGE) (<http://catalog.ncsu.edu/course-descriptions/msge/>)
- Mathematics (MA) (<http://catalog.ncsu.edu/course-descriptions/ma/>)
- Mechanical & Aerospace Engr (MAE) (<http://catalog.ncsu.edu/course-descriptions/mae/>)
- Mechanical Engineering Systems (MES) (<http://catalog.ncsu.edu/course-descriptions/mes/>)
- Medical Textiles (MT) (<http://catalog.ncsu.edu/course-descriptions/mt/>)
- Microbiology (MB) (<http://catalog.ncsu.edu/course-descriptions/mb/>)
- Military Science (MS) (<http://catalog.ncsu.edu/course-descriptions/ms/>)
- Multidisciplinary Studies (MDS) (<http://catalog.ncsu.edu/course-descriptions/mds/>)
- Music (MUS) (<http://catalog.ncsu.edu/course-descriptions/mus/>)
- Music Technology (MUT) (<http://catalog.ncsu.edu/course-descriptions/mut/>)

## N

- Natural Resources (NR) (<http://catalog.ncsu.edu/course-descriptions/nr/>)
- Natural Sciences (NSGE) (<http://catalog.ncsu.edu/course-descriptions/nsge/>)
- Natural Sciences and Global Knowledge (NSGK) (<http://catalog.ncsu.edu/course-descriptions/nsgk/>)
- Naval Science (NS) (<http://catalog.ncsu.edu/course-descriptions/ns/>)
- NC Global Training Initiative (GTI) (<http://catalog.ncsu.edu/course-descriptions/gti/>)
- Nonprofit Studies (NPS) (<http://catalog.ncsu.edu/course-descriptions/nps/>)
- Nonwovens (NW) (<http://catalog.ncsu.edu/course-descriptions/nw/>)

- Nuclear Engineering (NE) (<http://catalog.ncsu.edu/course-descriptions/ne/>)
- Nutrition (NTR) (<http://catalog.ncsu.edu/course-descriptions/ntr/>)

## O

- Occupational Education (EOE) (<http://catalog.ncsu.edu/course-descriptions/eoe/>)
- Operations Research (OR) (<http://catalog.ncsu.edu/course-descriptions/or/>)

## P

- Paper Science Engineering (PSE) (<http://catalog.ncsu.edu/course-descriptions/pse/>)
- Park Scholars (PRK) (<http://catalog.ncsu.edu/course-descriptions/prk/>)
- Parks, Recreation, and Tourism Management (PRT) (<http://catalog.ncsu.edu/course-descriptions/prt/>)
- Philosophy (PHI) (<http://catalog.ncsu.edu/course-descriptions/phi/>)
- Physics (PY) (<http://catalog.ncsu.edu/course-descriptions/py/>)
- Physiology (PHY) (<http://catalog.ncsu.edu/course-descriptions/phy/>)
- Plant Biology (PB) (<http://catalog.ncsu.edu/course-descriptions/pb/>)
- Plant Pathology (PP) (<http://catalog.ncsu.edu/course-descriptions/pp/>)
- Political Science (PS) (<http://catalog.ncsu.edu/course-descriptions/ps/>)
- Polymer and Color Chemistry (PCC) (<http://catalog.ncsu.edu/course-descriptions/pcc/>)
- Poultry Science (PO) (<http://catalog.ncsu.edu/course-descriptions/po/>)
- Professional Writing (WRT) (<http://catalog.ncsu.edu/course-descriptions/wrt/>)
- Psychology (PSY) (<http://catalog.ncsu.edu/course-descriptions/psy/>)
- Public Administration (PA) (<http://catalog.ncsu.edu/course-descriptions/pa/>)

## R

- Religious Studies (REL) (<http://catalog.ncsu.edu/course-descriptions/rel/>)

## S

- Science, Technology and Society (STS) (<http://catalog.ncsu.edu/course-descriptions/sts/>)
- Shelton Leadership Course (SLC) (<http://catalog.ncsu.edu/course-descriptions/slc/>)
- Social Sciences (SSGE) (<http://catalog.ncsu.edu/course-descriptions/ssge/>)
- Social Sciences and Global Knowledge (SSGK) (<http://catalog.ncsu.edu/course-descriptions/ssgk/>)
- Social Sciences and U.S. Diversity (SSUS) (<http://catalog.ncsu.edu/course-descriptions/ssus/>)
- Social Work (SW) (<http://catalog.ncsu.edu/course-descriptions/sw/>)
- Sociology (SOC) (<http://catalog.ncsu.edu/course-descriptions/soc/>)
- Soil Science (SSC) (<http://catalog.ncsu.edu/course-descriptions/ssc/>)
- Statistics (ST) (<http://catalog.ncsu.edu/course-descriptions/st/>)

- Sustainable Materials and Technology (SMT) (<http://catalog.ncsu.edu/course-descriptions/smt/>)

## T

- Technology Education (TED) (<http://catalog.ncsu.edu/course-descriptions/ted/>)
- Technology Engineering and Design Education (TDE) (<http://catalog.ncsu.edu/course-descriptions/tde/>)
- Textile and Apparel Management (TAM) (<http://catalog.ncsu.edu/course-descriptions/tam/>)
- Textile Chemistry (TC) (<http://catalog.ncsu.edu/course-descriptions/tc/>)
- Textile Engineering (TE) (<http://catalog.ncsu.edu/course-descriptions/te/>)
- Textile Materials Science (TMS) (<http://catalog.ncsu.edu/course-descriptions/tms/>)
- Textile Technology (TT) (<http://catalog.ncsu.edu/course-descriptions/tt/>)
- Textile Technology Management (TTM) (<http://catalog.ncsu.edu/course-descriptions/ttm/>)
- Textiles (T) (<http://catalog.ncsu.edu/course-descriptions/t/>)
- Theatre (THE) (<http://catalog.ncsu.edu/course-descriptions/the/>)
- Toxicology (TOX) (<http://catalog.ncsu.edu/course-descriptions/tox/>)

## U

- U.S. Diversity (USD) (<http://catalog.ncsu.edu/course-descriptions/USD/>)
- University Scholars Program (USP) (<http://catalog.ncsu.edu/course-descriptions/usp/>)
- University Studies Course (USC) (<http://catalog.ncsu.edu/course-descriptions/usc/>)

## V

- Veterinary Medicine-Companion Animal & Sp Species (VMC) (<http://catalog.ncsu.edu/course-descriptions/vmc/>)
- Veterinary Science - VMB (VMB) (<http://catalog.ncsu.edu/course-descriptions/vmb/>)
- Veterinary Science - VMP (VMP) (<http://catalog.ncsu.edu/course-descriptions/vmp/>)
- Visual and Performing Arts (VPGE) (<http://catalog.ncsu.edu/course-descriptions/vpge/>)
- Visual and Performing Arts and Glob Know (VPGK) (<http://catalog.ncsu.edu/course-descriptions/vpgk/>)
- Visual and Performing Arts and U.S. Div (VPUS) (<http://catalog.ncsu.edu/course-descriptions/vpus/>)

## W

- Women's, Gender and Sexuality Studies (WGS) (<http://catalog.ncsu.edu/course-descriptions/wgs/>)
- Wood and Paper Science (WPS) (<http://catalog.ncsu.edu/course-descriptions/wps/>)

## Z

- Zoology (ZO) (<http://catalog.ncsu.edu/course-descriptions/zo/>)