

OHIO STATE
UNIVERSITY

ATI

AGRICULTURAL TECHNICAL INSTITUTE

2010-2011 Bulletin

The Ohio State University

Mission and Vision Statement

The Ohio State University has as its mission the attainment of international distinction in education, scholarship, and public service. As the state's leading comprehensive teaching and research university, Ohio State combines a responsibility for the advancement and dissemination of knowledge with a land-grant heritage of public service. It offers an extensive range of academic programs in the liberal arts, the sciences, and the professions.

Ohio State provides accessible, high-quality undergraduate and graduate education for qualified students who are able to benefit from a scholarly environment in which research inspires and informs teaching.

At Ohio State, we celebrate and learn from our diversity and we value individual differences. Academic freedom is defended within an environment of civility, tolerance, and mutual respect.

The Ohio State University is a community of scholars in which:

- teaching and research are recognized as part of the same process: learning;
- academic units and curricula are structured to foster learning and nurture creativity;
- administrative services, facilities, and technology enrich the academic experience;
- academic programs and research opportunities are extensive and excellent, but not exhaustive; and
- human resources complement our promise. High-ability students, faculty, and staff from diverse backgrounds participate in leading programs and enrich an environment that sustains learning and growth.

Nondiscrimination Policy

The policy of The Ohio State University, both traditionally and currently, is that discrimination against any individual for reasons of race, color, creed, national origin, religion, sex, sexual orientation, age, handicap, or Vietnam-era veteran status is specifically prohibited.

Accordingly, equal access to employment opportunities, admissions, educational programs, and all other university activities is extended to all persons, and the university promotes equal opportunity through a positive and continuing affirmative action program.

The university's Office of Human Resources / Affirmative Action, 1590 N. High St., Suite 300, Columbus, Ohio 43201-2190; 614-292-1050, is responsible for the coordination of matters relating to equal opportunity and affirmative action. United States Department of Defense regulations prohibit gay men, lesbians, and bisexuals from serving in the armed forces, including Reserved Officer Training Corps. As a result of the prohibition, ROTC programs are in violation of University Policy Number 1.10 (Issued 10/1/73).

Equality of opportunity is a basic philosophy at Ohio State. Mindful of the need for all persons to adapt to the changing roles and needs of society, the university also provides evening programs and continuing education opportunities to serve a wide spectrum of lifelong learning needs. In the exploration of new ideas and in the preparation of citizens for their roles in a changing society, the university represents a human commitment—an expression of the aspiration of people to better themselves and the world in which they live.

Campuses

Columbus

Lima

Mansfield

Marion

Newark

Agricultural Technical Institute, Wooster

Agricultural Technical Institute

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At The Ohio State University, every effort is made to provide accurate and up-to-date information. However, the university reserves the right to change without notice statements in university publications concerning rules, policies, fees, curricula, courses, or other matters when necessary. In addition, Ohio State is currently reviewing and restructuring many of our academic programs in an effort to enhance their quality and improve our efficiency. In that process, some of the programs and courses mentioned in this bulletin may be modified, consolidated with other programs or courses, or eliminated.

Agricultural Technical Institute

1328 Dover Road, Wooster, Ohio 44691-4000; 330-287-1331; 800-647-8283 (in Ohio only)
 Web site: www.ati.osu.edu; e-mail: ati@osu.edu



Mission

The Ohio State University Agricultural Technical Institute provides educational programs leading to associate degrees in agriculture, horticulture, environmental sciences, business, and engineering technology. With a high value placed on lifelong learning, we provide accessible, high-quality, applied educational experiences. Our goal is to prepare individuals to be technically competent, self-reliant, and productive citizens in a global society.

The purposes of the institute are to offer: 1) associate of science and associate of applied science degrees and certificates which include general and technical courses; 2) credit and non-credit continuing education and workforce development opportunities; and 3) transfer programs leading to higher levels of education.

Emphasis is placed on: 1) preparing technically proficient individuals for various careers; 2) developing skills and abilities in problem solving, critical thinking, leadership, and communication; and 3) fostering an environment where diversity is valued and integrated throughout the institute.

General Information

Ohio State ATI provides outstanding educational opportunities for students interested in careers in agriculture, biotechnology, horticulture, engineering technologies, business, and the environment. Twenty-eight programs of study leading to the Associate of Applied Science, Associate of Science, or Associate of Technical Study prepare students for careers in as little as two years.

An Ohio State ATI education is based on the premise that students learn best when they participate actively in the learning process. Teaching and learning reach beyond the

classroom to the laboratories, greenhouses, studios, and farm facilities that complement the Ohio State ATI campus. An experiential learning approach to education lets students learn by doing, complementing traditional classroom instruction.

To help students succeed, Ohio State ATI offers a personalized learning environment in which students receive individual attention from faculty with real-world knowledge and expertise. A student/faculty ratio of 17:1 gives students the opportunity to work side-by-side with faculty who take a personal interest in their success.

In an increasingly competitive job market, experience coupled with technical training makes the difference. Ninety-nine percent of Ohio State ATI graduates find jobs or continue their education in a bachelor's degree program within four months of graduation.

Internships are an invaluable part of an Ohio State ATI associate of applied science degree. Students complete internships to gain work experience, make professional contacts, earn money, and receive academic credit. Faculty and staff assist students in locating internships that reflect their career goals and interests.

Ohio State ATI is located in a major agricultural center one and one-half miles southeast of Wooster, Ohio, and is easily accessible from any area of the state. The city serves as the Wayne County seat and is home to approximately 26,000 people. In addition to an expanding number of concerts, intramural sports, dances, and other activities held on campus, the surrounding community provides students opportunities to attend theater and cultural events, YMCA programs, movies, and fairs. Wooster is within an hour's drive of Cleveland, Akron, and Canton, which offer a variety of activities including major league sports, concerts, and shopping.

Established in 1969, Ohio State ATI has a statewide mandate to provide comprehensive agricultural education. The institute is an administrative unit of The Ohio State University College of Food, Agricultural, and Environmental Sciences and maintains a close relationship with the Ohio Agricultural Research and Development Center (OARDC), the Ohio State University Extension (OSUE), the Ohio Department of Education, and the Ohio Board of Regents. These affiliations provide students access to additional resources and opportunities.

The Ohio State University is a member of the Association of American Universities and the National Association of Land-Grant Colleges and State Universities and is accredited by the North Central Association of Schools and Colleges. Ohio State ATI is accredited separately by the North Central Association of Schools and Colleges (phone 312-263-0456, www.ncahigherlearningcommission.org).

Academic Opportunities

Ohio State ATI offers the Associate of Applied Science (AAS), the Associate of Science (AS), and the Associate of Technical Study (ATS) degrees. All degrees include courses in communication, social sciences, mathematics, and science basic to the technical component of the program.

Associate of Applied Science

The Associate of Applied Science program provides students with the technical and management skills to enter the workforce in middle management positions. Each curriculum has minimum requirements that have been established with input from industry advisory committees.

The Associate of Applied Science degree is offered in the following areas (the code following each program will be used on question 20 of the Application for Admission):

Agricultural CommerceAGCOMMR-AA
 Beef & Sheep Production and Management.....
LVBSHP-AA
 BiotechnologyBIOTECH-AA
 Business Management.....BUSMGT-AA
 Construction Management.....CONSTTE-AA
 Crop Management and Services . CROPMGT-AA
 Dairy Cattle Production and Management.....
DYPMGT-AA

Environmental Resources Management.....
ENRESMG-AA
 Floral Design and MarketingFLDMKT-AA
 Greenhouse Production and Management
GHPMGT-AA
 Horse Production and Management.....
HRSPMGT-AA
 Hydraulic Power and Motion Control.....
HYDRPWR-AA
 Landscape Horticulture Technologies
LANDHRT-AA
 Nursery Management.....NRSYMGT-AA
 Power and Equipment.....PETECH-AA
 Swine Production and Management
LVSWINE-AA
 Turfgrass ManagementTUFGMGT-AA

Associate of Science

The Associate of Science program is designed to prepare individuals to transfer to a Bachelor of Science degree program in the College of Food, Agricultural and Environmental Sciences at the Columbus campus of The Ohio State University. Students can complete approximately 50 percent of the requirements for a bachelor's degree while capitalizing on the experiential learning, small, caring campus environment and other advantages provided by Ohio State ATI.

Associate of Science degree programs can be transferred to various departments at the Columbus campus, including Agricultural, Environmental, and Development Economics, Animal Sciences, and Horticulture and Crop Sciences.

The Associate of Science degree option is available in the following areas (the code following each program will be used on question 20 of the Application for Admission):

Agricultural Business.....AGRBUS-AS
 Agronomy.....AGRONOM-AS
 Construction ScienceCNSTSCI-AS
 Dairy Science.....DAIRYSC-AS
 Environmental Resources Science
ENRESSC-AS
 Horse ScienceHORSESC-AS
 Horticultural ScienceHORTSCI-AS
 Livestock ScienceLVSCI-AS
 Pre-Agricultural Communication.....
AGRCOM-PRE
 Pre-Agricultural EducationAGED-PRE
 Pre-Food BusinessFDBUS-PRE
 Undeclared.....ATI-UNDEC

1 + 3 Program

The professional golf management (PGM) program is a four-year curriculum for aspiring PGA professionals. The objective of the PGM program at Ohio State ATI is to allow students to complete the first year of the Bachelor of Science in Professional Golf Management. After one year, students transition to the Columbus campus to complete the remainder of the program.

Professional Golf Management PGM-AI

Associate of Technical Study

The Associate of Technical Study degree allows students to create a unique curriculum that focuses on special interests based on individual career goals. An educational plan identifying the courses chosen must be approved before the student earns 45 credits. The approval process begins after enrollment with the student's advisor.

Certificate of Competency

The Certificate of Competency is a 48-credit program that can be completed in nine months. These programs emphasize technical courses.

Hydraulic Service and Repair HYDSERV-CT
Sports/Commercial Turf Equipment.....
..... COTURFE-CT

Continuing and Professional Education Options

The Ohio State ATI Business Training and Educational Services Program offers opportunities for adults to upgrade their skills to meet the requirements of current technology and to retrain for new positions. The instructional offering consists of credit courses; noncredit workshops, seminars, and certificate programs; and specialized programs contracted with individual companies or associations.

Credit courses Students can enroll on a non-degree basis in any credit course offered at ATI. Non-degree students may enroll full- or part-time, and can choose to audit courses or take courses for a grade.

Certificate programs These programs consist of courses, workshops, and seminars aimed at upgrading an individual's skills and qualifications to meet the needs of technological change.

- Certificate of Completion given to students completing a course or series of courses in a specific skill area.
- Certificate of Achievement given to students completing a pre-approved series of courses. This series of courses may be a prescribed curriculum designed to meet the employment qualifications for a specific job classification or may be individualized to meet the career goals of the student.

Transitioning to Columbus

Ohio State ATI can be used as a pathway to a bachelors degree in Columbus.

Student who have completed 45 credit hours and have a minimum cumulative GPA of 2.0 at Ohio State ATI can transition to the Columbus campus.

Fees and expenses

The costs for an academic quarter or year depend, in part, on the student. Expenses will vary with the individual student’s type of housing, meals, transportation, and other factors. **All fees are subject to change.**

Application fee.....\$40

Required of every student upon first application to the university. Nonrefundable and not applicable toward any other university fee. Fee for international applicant is \$50.

Acceptance fee\$100

Required of every degree-seeking student upon first admission to the university. Nonrefundable and not applicable toward any other university fee.

Course fees.....variable

A \$50 learning technology fee is assessed for any quarter in which the student is enrolled in any of the following: Anml Tec 254T, Bus Tec 202T, 203T, 204T, 205T, 206T, Eng Tech 209T, 210T, 216T, 217T, 225T, Hort Tec 231T, 232T, 270T, and 271T.

A lab fee is assessed as listed for any quarter the student is enrolled in the following Anml Tec courses:

211T	\$30	264T	\$150
212T	\$50	265T	\$50
213T	\$50	266T	\$250
214T	\$30	267T	\$50
261T	\$50	268.01T	\$50
262T	\$50	269T	\$350

Housing Activity fee... \$13/quarter

Required of all students living on campus. Nonrefundable and not applicable toward any other university fee.

Housing processing/reservation fees \$50/\$200/\$100

New students pay a non-refundable housing processing fee of \$50. All students in campus housing are assessed: a space reservation fee of \$200, which is refunded if they complete the conditions of their lease; and a \$100 per year non-refundable fee for academic year housing.

Publication fee\$2

Assessed for all students in the College of Food, Agricultural and Environmental Sciences including Ohio State ATI in their first quarter of enrollment for the academic year.

Student Orientation, Assessment, & Registration (SOAR)\$100

Required of every degree-seeking student upon first enrollment at Ohio State ATI.

Nonrefundable and not applicable toward any other university fee.

Safety and Security fee ...\$15/quarter

Ohio State ATI students are assessed this fee for safety and security costs on the Wooster campus, even when students are on internship.

Student health insurance \$543/quarter

Students will be billed for health insurance through the university unless they opt out of insurance at the time of registration.

University fees

The university reserves the right to change fees without notice. Undergraduate students enrolled in any quarter or term for 12 or more credit hours will be assessed full fees. Fees for undergraduate students enrolled for 11 or fewer credit hours shall be assessed fees on a per-credit hour basis.

Tuition effective Autumn Quarter 2010

<i>Credit hours</i>	<i>Resident tuition*</i>	<i>Non-resident tuition</i>
1	175.00	569.00
2	350.00	1138.00
3	525.00	1707.00
4	700.00	2276.00
5	875.00	2845.00
6	1050.00	3414.00
7	1225.00	3983.00
8	1400.00	4552.00
9	1575.00	5121.00
10	1750.00	5690.00
11	1925.00	6259.00
12 or more	2100.00	6828.00

*Qualified Residents

Ohio Law requires male students between the ages of 18 and 26 to be registered with the Selective Service System, unless they are on active duty with the armed forces of the United States (other than the National Guard or Reserves) or legally excluded, to be eligible for state educational assistance programs. Residents who are not registered or have not indicated they do not need to register by the first day of the quarter are required to pay the Out-of-State Tuition as required by Ohio law. Students can register with Selective Service in the year they become 18 and must complete registration by 30 days after their 18th birthday. Selective Service registration can be accomplished within a few minutes at any U.S. Post Office. Students wishing to indicate exempt status can request materials to do so by contacting Student Consolidated Services, The Ohio State University, Student Academic Services Building, 1st Floor, 281 West Lane Avenue; 614-292-0300.

Approximate costs for Ohio State ATI 2010-2011

	One quarter	Three quarters
Ohio Residents		
Tuition	\$2,100	\$6,300
Campus Housing	1,955	5,865
Books and supplies*	518	1,554
Groceries/Meals*	847	2,541
Subtotal**	\$5,420	\$16,260
Non-Ohio Residents		
Tuition	\$6,828	\$20,484
Campus Housing	1,955	\$5,865
Books and supplies*	518	1,554
Groceries/Meals*	847	2,541
Subtotal**	\$10,148	\$30,444

* Costs listed for Book and Supplies and Groceries/Meals are estimated.

** In addition, you will need to allow for expenses such as long distance, phone, transportation, laundry, and health insurance. Students will be billed for health insurance through the university unless they opt out.



Curricular information

Graduation requirements

To obtain a degree at Ohio State ATI a student must:

- earn a minimum of 95 quarter credit hours with a cumulative point-hour ratio of 2.00 or above;
- satisfactorily complete a prescribed curriculum;
- earn a minimum of 45 credit hours through regular course work at the institute (exclusive of the internship);
- complete an occupational internship with a grade of C (2.00) or better, if included in the degree requirements;
- complete the prescribed hours of practicum with a C (2.00) or better in each quarter of practicum enrollment; a maximum of 13 credit hours of practical experience courses (e.g. practicum and internship) will count toward graduation for Associate of Applied Science degree programs.
- file an application for the degree in accordance with institute deadlines; and
- enroll in the institute during the last quarter necessary to complete the degree requirements. This may be waived on petition by the student.

Internship and practicum

Occupational internship is a required course in all Associate of Applied Science programs. It consists of a minimum of one academic quarter of paid full-time employment in the student's specialized field of study and completion of a major written report. For this course, the student enrolls for credit, pays fees, receives grades, is supervised by Ohio State ATI personnel, and is paid a salary by the employer.

Practicum is a course of supervised practical experience required in most Associate of Applied Science programs. The practicum is designed to develop and improve occupational skills beyond the levels achieved in normal classroom and laboratory activities.

Credit by examination

Ohio State ATI offers the opportunity to earn college credit through satisfactory achievement on a variety of examinations. The credit by examination (EM) program is available to all currently enrolled students for most courses during the quarters they are offered. Students interested in this opportunity should contact the course instructor.

Associate of Applied Science

Each curriculum has minimum requirements (described on pages 8-25) that have been established with input from industry advisory committees.

Social science requirements in each program are to be met by taking one course in each of the following areas:

- Social Science – Individual Development
Gen S Sc 171T, 172T, or 173T
- Social Science – Group Processes
Gen S Sc 181T, 182T, 183T or 184T

Humanities requirement in each program is to be met by taking one course from the following:

- Gen Hum 190T, 191T, or 192T

Associate of Science

The curriculum includes both courses required for the Bachelor of Science degree and selected Ohio State ATI courses. The courses will transfer to fulfill major or minor requirements or may be used as electives. Practical applications may be required through internship and/or practicum. Each curriculum has minimum requirements which are described on pages 26-36.



Associate of Technical Study

In addition to the general graduation requirements, students pursuing the ATS degree must meet the following requirements:

General courses

Communication; social sciences; humanities; computers; mathematics; and biological, chemical and physical sciences.....45 credits

Technical studies courses

Courses chosen in consultation with an advisor....
.....50 credits

Certificate programs

Certificates are available on both a credit (Certificate of Competency) and noncredit (Certificate of Completion and Certificate of Achievement) basis. For a description of the three certificate options, see page 4.

Associate of Applied Science Degree programs

Agricultural Commerce

The objective of this program is to provide the student with training in a basic business core. The student also chooses a specialty in agriculture or a unique alternative.

Career opportunities

Career opportunities for technical workers in agricultural commerce include customer service, sales, accounting, office management, banking, and computer applications in agricultural businesses.

General courses (see pages 40-42, and 56 for course titles and descriptions)

English 110.01	First-Year English Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 120T	Gen. Biology w/ Applications
or 125T	Gen. Botany w/ Applications
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Math 140T	Technical Mathematics I
Gen Math 141T	Math for Retail Technicians

Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 100T	Introduction to Business
Bus Tec 101T	Financial Accounting
Bus Tec 103T	Managerial Accounting
Bus Tec 203T	Word Processing Applications
Bus Tec 204T	Spreadsheet Applications
Bus Tec 205T	Database Applications
Bus Tec 230T	Marketing of Agri. Products
Bus Tec 232T	Personal Selling
Bus Tec 241T	Small Business Management
Bus Tec 243T	Office Management
or 248T	Introduction to Cooperatives
Bus Tec 244T	Human Resource Management
Bus Tec 247T	Business Law
Bus Tec 249T	Fundamentals of Business Finance
Bus Tec 289.02T	Practicum
Bus Tec 290.02T	Occupational Internship
Technology Elective	

Specialty areas

Students will develop a specialty of at least 10 credit hours with the approval of their advisor.

Facilities

A computer lab and the Ohio State ATI Farm Laboratory complement the classrooms.



Applied learning opportunities

Students take practicum (supervised, practical work experience) which provides an opportunity to apply skills learned in class.

Agricultural Commerce students must also complete an industry internship consisting of 10 weeks of full-time employment in the field of their study and interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Agricultural Business. See curricular information on page 26.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Beef and Sheep Production and Management

The objective of this program is to prepare individuals for successful employment in beef or sheep production or in related industries.

Career opportunities

Beef and sheep production majors may find positions in the areas of beef or sheep production, beef or sheep service industries, and sales of related products. A variety of opportunities exist in purebred, commercial, and club calf or lamb production. Graduates are also prepared for employment in entry-level positions in agri-businesses such as livestock associations, artificial insemination centers, feed and pharmaceutical companies, and in the meat industry.

Curriculum

The curriculum includes the principles and practical application of nutrition, reproduction, genetics, live and carcass evaluation, health, facility design, and records in efficient management of each phase of production. Business and accounting principles are also presented. Practical application is emphasized at the beef and sheep unit on the Ohio State ATI Farm Laboratory and at the beef and sheep units at OARDC.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 120T	Gen. Biology w/ Applications
Bus Tec 101T	Financial Accounting (with Bus Tec 241T)
or 102T	Farm Financial Records (with Bus Tec 240T)
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
or	
Gen Math 141T	Math for Retail Technicians
or	
Gen Math 145T	Technical Mathematics II
or	
Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Gen Math 140T	Technical Mathematics I

Technical courses (see pages 42-54 for course titles and descriptions)

Anml Tec 222.01T	Beef and Sheep Production
Anml Tec 221T	Animal Anatomy and Physiology
Anml Tec 223T	Judging Meat Animals
Anml Tec 225T	Principles of Livestock Health
Anml Tec 240T	Principles of Animal Nutrition
Anml Tec 205.01T	Livestock Genetics
or 245T	Genetic Principles for Farm Animal Improvement
Anml Tec 274T	Beef Production II
or 276T	Sheep Production
Anml Tec 289.01T	Practicum
Anml Tec 290.01T	Occupational Internship
Anml Tec 292.01T	Leadership

Choose one from the following three courses:

Bus Tec 203T	Word Processing Applications
Bus Tec 204T	Spreadsheet Applications
Bus Tec 205T	Database Applications
Bus Tec 240T	Principles of Farm Mgmt. (with Bus Tec 102T)
or 241T	Small Business Management (with Bus Tec 101T)

Free electives (10 credits)

Facilities

Ohio State ATI's beef facility houses a 100-cow beef herd which includes purebred and commercial cattle. Ohio State ATI has a flock of 30 Corriedale sheep and utilizes OARDC's 300-head beef feedlot, 300-head ewe flock and associated facilities.

Applied learning opportunities

Students take practicum (supervised, practical work experience) which provides an opportunity to apply skills learned in class.

Beef and sheep students also complete an industry internship consisting of 10 weeks of full-time employment in the field of their study and interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science degree in Livestock Science. See curricular information on page 33.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Biotechnology

The objective of this program is to provide students with a working knowledge of the profession by providing experience and expertise using the latest laboratory equipment and critical consideration of current topics in biotechnology.

Career opportunities

Graduates with an Associate of Applied Science degree in Biotechnology are prepared for careers as research/technical assistants in biomedical, pharmaceutical, forensic, bioengineering, agriculture, microbiology and environmental fields working in government, academic and private laboratories.

Curriculum

The Biotechnology program emphasizes techniques in using the state-of-the-art laboratory protocols and equipment for preparing, collecting, recording and analyzing data from research samples. Areas of study include: biochemistry, chromatography, spectroscopy, genetics, recombinant DNA technology and animal tissue culture.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 120T	Gen. Biology w/ Applications
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
Gen Math 140T	Technical Mathematics I
Gen Math 145T	Technical Mathematics II



Technical courses (see pages 42-57 for course titles and descriptions)

AEE 387	Data Analysis in Applied Sciences
Bio Tech 210T	Intro. to Biological Chemistry
Bio Tech 220T	Animal Tissue Culture
Bio Tech 270T	Intro. to Biotechnology
Bio Tech 271T	Biotechnology I – Instrumental Analysis
Bio Tech 272T	Biotechnology II – Advanced Molecular Separations
Bio Tech 280T	Modern Genetics
Bio Tech 281T	Recombinant DNA Technology
Bio Tech 282T	Bioinformatics
Bio Tech 289.01T	Practicum
Bio Tech 290.01T	Occupational Internship
Micrbiol 509	Basic & Practical Microbiology
Technology elective	

Applied learning opportunities

Students take practicum (supervised, practical work experience) which provides an opportunity to apply skills learned in class.

Biotechnology students must also complete an industry internship consisting of 15 weeks of full-time employment in the field of their study or interest.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Business Management

The objective of this program is to prepare individuals to assume various management positions with business firms involved in retailing, wholesaling, and manufacturing.

Career opportunities

Many opportunities exist in the business world for individuals with good interpersonal skills and the knowledge of accounting, marketing, and computers. With additional on-the-job training and experience, graduates of the business management program could operate their own business.

Curriculum

The curriculum emphasizes management skill development, marketing, accounting, human resource management, business law, and small business operations. Additional areas of study available include advertising, computer technology, retail store operations and merchandising, real estate dynamics, economics, and office procedures and management.

General courses (see pages 40-42, and 56 for course titles and descriptions)

English 110.01	First-Year English Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 120T	Gen. Biology w/Applications
or 125T	Gen. Botany w/Applications
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Math 140T	Technical Mathematics I
Gen Math 141T	Math for Retail Technicians
Gen Chem 131T	Intro. Chemistry I w/ Appl.

Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 100T	Introduction to Business
Bus Tec 101T	Financial Accounting
Bus Tec 103T	Managerial Accounting
Bus Tec 203T	Word Processing Applications
Bus Tec 204T	Spreadsheet Applications
Bus Tec 205T	Database Applications
Bus Tec 231T	Fundamentals of Marketing
Bus Tec 232T	Personal Selling
Bus Tec 241T	Small Business Management
Bus Tec 244T	Human Resource Management
Bus Tec 245T	Supervisory Management
Bus Tec 247T	Business Law
Bus Tec 249T	Fundamentals of Business Finance
Bus Tec 289.03T	Practicum
Bus Tec 290.03T	Occupational Internship
Technology Elective	
Required business electives	

Applied learning opportunities

Students take practicum (supervised, practical work experience) which provides an opportunity to apply skills learned in class.

Business management students must also complete an industry internship consisting of 10 weeks of full-time employment in the field of their study or interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science degree in Agricultural Business. See curricular information on page 26.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Construction Management

The objective of this program is to help prepare students for management careers in construction with emphasis on residential and light commercial construction.

Career opportunities

Career opportunities are available with home builders, general contractors, building material retailers, and manufacturers.

Curriculum

The construction management curriculum emphasizes two major content areas: building science and technology and business management.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Bus Tec 151T	General Economics
Gen Social Science Electives	
Gen Humanities Elective	
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Math 140T	Technical Mathematics I
Gen Math 145T	Technical Mathematics II
Gen Stds 201T	Personal & Career Orientation
Tec Phys 101T	Technical Physics I
Tec Phys 102T	Technical Physics II



Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 204T	Spreadsheet Applications
Bus Tec 239T	Real Estate Dynamics
Eng Tech 209T	Intro. to Computer Aided Design
Eng Tech 210T	Advanced Computer Aided Design
Eng Tech 253T	Sitework Planning & Construction
Eng Tech 254T	Residential Electrical Systems
Eng Tech 255T	Residential Mechanical Systems and Energy Efficient Construction
Eng Tech 256T	Building Construction: Codes, Foundations and Framing
Eng Tech 257T	Building Construction: Codes, Exterior Coverings, and Interior Finishes
Eng Tech 258T	Estimating and Bidding
Eng Tech 259T	Construction Management
Eng Tech 290.01T	Occupational Internship
Eng Tech 292T	Problem Solving: Career and Society Applications
	Business electives
	Free elective

Facilities

Students utilize CAD, estimating, and scheduling computer software in the computer lab. In the construction laboratory, students design, construct, test, and evaluate materials and components.

Applied learning opportunities

Construction Management students must also complete an industry internship consisting of 10 weeks of full-time employment in a work experience related to their career interest.

Construction Management students also participate in industry trade shows and construction club (National Association of Home Builders Student Chapter) activities.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science degree in Construction Science. See curricular information on page 28.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Crop Management and Services

The objective of this program is to educate students to maximize the quality and quantity of cereal and forage crop yields through the application of scientific principles. Students enrolled in this program may specialize in crop management, crop services or custom application.



Career opportunities

Graduates are employed as farm managers, farm operators, and field persons for seed companies, fertilizer and chemical companies, and grain elevators. Excellent opportunities exist in sales and custom application of farm chemicals and fertilizers.

Curriculum

Students in the program study crop production, soil science, weed control, crop diseases, and forage crops. Emphasis is placed on a strong business core to enable students to successfully compete in an ever-changing agricultural industry.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 125T	Gen. Botany w/Applications
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
Gen Math 140T	Technical Mathematics I

Technical courses (see pages 42-54 for course titles and descriptions)

Bio Tech 218T	General and Applied Entomology
Bus Tec 204T	Spreadsheet Applications
Bus Tec 230T	Marketing of Agri. Products
Bus Tec 232T	Personal Selling
or 244T	Human Resource Management
Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Crp Soil 228T	Fertilizers & Soil Fertility
Crp Soil 260T	Field Crop Production
Crp Soil 265T	Diseases of Agronomic Crops
Crp Soil 266T	Weed Control in Field Crops
Crp Soil 289T	Practicum
Crp Soil 290T	Occupational Internship
Eng Tech 216T	Tillage & Planting Equipment
Eng Tech 217T	Harvesting Equipment
Eng Tech 225T	Intro. to Geographic Info. Systems
Eng Tech 231T	Farmstead Systems for Storage and Processing of Agronomic Crops

Take one group:

Bus Tec 101T	Financial Accounting
and Bus Tec 241T	Small Business Management
or	
Bus Tec 102T	Farm Financial Records
and Bus Tec 240T	Principles of Farm Mgmt.

Facilities

Students are involved in field work and related activities at the 1,700-acre Ohio State ATI Farm Laboratory and the 143-acre Land Laboratory.

Applied learning opportunities

The practicum course provides students with supervised, practical work experience, and an opportunity to apply classroom instruction in the field.

An internship provides students with an opportunity to gain industry experience through full-time employment for 10-weeks in the area of their interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Agronomy. See curricular information on page 27.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Dairy Cattle Production and Management

The objective of this program is to educate students in techniques of dairy production and management for careers with dairy farms, and associated businesses and industries.

Career opportunities

Dairy cattle production and management positions are available in production management, service, sales, and quality control.

A graduate of the dairy cattle program could fill the following positions: herd manager, dairy farm manager, dairy field representative, dairy technician, or sales representative in the dairy industry.

Curriculum

The curriculum includes principles and application of milk production, genetics, reproduction, nutrition and feeding, health, animal selection, and financial management.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Biol 120T	Gen. Biology w/ Applications
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
or	
Crp & Soil 221T	Intro. to Soils & Soil Mgmt.
or	
Gen Math 141T	Math for Retail Technicians
Gen Math 140T	Technical Mathematics I
Gen Stds 201T	Personal & Career Orientation

Technical courses (see pages 42-54 for course titles and descriptions)

Anml Tec 201T	Dairy Cattle Milk Production
Anml Tec 202T	Judging/Classifying Dairy Cattle
Anml Tec 203T	Dairy Cattle Reproduction
Anml Tec 221T	Animal Anatomy and Physiology
Anml Tec 240T	Principles of Animal Nutrition
Anml Tec 205.03T	Dairy Cattle Genetics
or 245T	Genetic Principles for Farm Animal Improvement
Anml Tec 252T	Dairy Cattle Health
Anml Tec 254T	Dairy Cattle Feeding Mgmt.
Anml Tec 255T	Dairy Facilities & Equipment
Anml Tec 257T	Applied Dairy Herd Mgmt.

Anml Tec 258T	Integrated Dairy Farm Business Management
Anml Tec 290.03T	Occupational Internship
Anml Tec 295.02T	Technology & Development in Animal Ind.
Bus Tec 101T	Financial Accounting
or 102T	Farm Financial Records
Technical electives: 7 credit hours to be selected in consultation with an advisor.	

Associate of Technical Studies

Curricula for two ATS options have been developed. In the dairy equipment service technician curriculum, students will study milking equipment and dairy facility design as well as learn basic milking system installation and service skills. This option includes course work from the dairy production and management curriculum as well as the engineering technologies area.

The dairy farm supply specialist curriculum focuses on milking system design, system washing theory, cleaning and sanitizing products, mastitis and udder health, udder health products, and sales skills. This option includes course work from the dairy production and management curriculum as well as business management area.

Facilities

Ohio State ATI's dairy facilities house more than 100 high-producing registered Holstein, Jersey, and Brown Swiss milking cows in a free-stall barn with a drive-through total mixed ration feeding system. The fully automated double-ten parallel milking parlor is equipped with electronic identification and computerized milk weight recorders.

On-site computer systems house internal herd and financial records and are online with the Dairy Herd Improvement Association's processing center.

Applied learning opportunities

Students take Applied Dairy Herd Management (supervised, practical work experience), which provides an opportunity to apply skills learned in class.

Dairy students must also complete an industry internship consisting of 10 weeks of full-time employment in the field of their study or interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Dairy Science. See curricular information on page 29.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Environmental Resources Management

The objective of this program is to educate individuals regarding critical environmental issues and to prepare technicians who can help solve environmental problems by working for conservation agencies at local, state, and federal levels and for environmental businesses and industries.

Career opportunities

Career opportunities for technical workers with environmental resources experience exist in toxic waste management, landfill and reclamation operations, recycling programs, composting facilities, waste water facilities, soil management and conservation programs, land improvement and drainage services, and with companies providing supplies and services to the industry.

Curriculum

The curriculum emphasizes environmental resources (air, water, soil), solid waste management, sediment pollution control and design, and soil and water conservation. The study of the effects of fertilizers, manures, pesticides, biosolids, composts, and other natural and synthetic materials on water, soils, and crops is also emphasized.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Stds 201T	Personal & Career Orientation
Gen Biol 120T	Gen. Biology w/ Applications
or 125T	Gen. Botany w/Applications
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
Gen Math 140T	Technical Mathematics I
Gen Math 145T	Technical Mathematics II

Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 244T	Human Resource Management
Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Crp Soil 222T	Soil Formation & Classification Appl.
Crp Soil 224T	Soil Physics and Mechanics Applications

Crp Soil 229T	Modeling & Managing Soil Erosion
Crp Soil 260T	Field Crop Production
Crp Soil 266T	Weed Control in Field Crops
Eng Tech 208T	Technical Drafting
Eng Tech 209T	Intro. to Computer Aided Design
Eng Tech 224T	Soil and Water Conservation Systems
Eng Tech 225T	Intro. to Geographic Information Systems
Env Sc T 210T	Introduction to Ecology
Env Sc T 272T	Environmental Resources in Agricultural Ecosystems
Env Sc T 274T	Regulated Waste Management
Env Sc T 289T	Environmental Sciences Practicum
Env Sc T 290T	Occupational Internship
	Technical elective

Facilities

Ohio State ATI laboratories are equipped to sample and analyze water, soil, fertilizers, and other environmental substances. Instruments used to make these analyses include pH meters, specific ion electrodes, soluble salt bridges, spectrophotometers, and soil water pressure extractors.

The Ohio State ATI Farm Laboratory and the 18-hole golf course, Hawk's Nest at Ohio State ATI, provide additional external laboratories to sample and study the effects of fertilizers, manures, pesticides, biosolids, and other natural and synthetic materials on water, soils, and crops.

Applied learning opportunities

Students take practicum (supervised, practical work experience) which provides an opportunity to apply skills learned in class.

Environmental Resources Management students must also complete an industry internship consisting of 10 weeks of full-time employment in the field of their study and interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Environmental Resources Science. See curricular information on page 30.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Floral Design and Marketing

The objective of this program is to educate individuals to assume design and management positions in the retail floral industry.

Career opportunities

Graduates may find job opportunities as floral designers, managers, or wedding consultants. The artistic principles learned in the program also prepare graduates to assume positions as interior plantscape technicians, estate gardeners, or display artists. With additional on-the-job experience, graduates should be able to go into business for themselves.

Curriculum

The curriculum provides the principles of designing traditional and contemporary arrangements as well as specialty designs for weddings, parties, and funerals. The techniques of handling and storing flowers, greenhouse operations, outdoor gardening, and decorative uses of plants are emphasized. Principles of floral marketing are developed through a cohesive series of business courses.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 125T	Gen. Botany w/Applications
Bus Tec 101T	Financial Accounting
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Math 140T	Technical Mathematics I
Gen Math 141T	Math for Retail Technicians

Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 231T	Fundamentals of Marketing
Bus Tec 241T	Small Business Management
Hort Tec 245T	Herbaceous Plants
Hort Tec 257T	Houseplants for Interior Decoration
Hort Tec 262T	Basic Floral Design
Hort Tec 263T	Post-Harvest Flower Care
Hort Tec 264T	Commercial Floral Design
Hort Tec 265T	Flowers for Celebrations I
Hort Tec 267T	Contemporary Floral Design
Hort Tec 268T	Retail Flower Shop Operation

Hort Tec 269T	Flowers for Celebrations II
Hort Tec 290.01T	Occupational Internship
Business Electives (Select two of the following):	
Bus Tec 232T	Personal Selling
Bus Tec 233T	Advertising and Promotion
Bus Tec 244T	Human Resource Management
Technical Electives	



Facilities

Facilities for the floral design program include a large floral design studio, flower preparation room, flower shop, and extensive greenhouse and gardens for fresh flower production.

Applied learning opportunities

Students work in The Ohio State ATI Flower Shop, where they have an opportunity to apply skills learned in class.

Floral Design and Marketing students complete an industry internship consisting of 10 weeks of full-time employment in a retail flower shop or related business. In addition, industry leaders provide specialized classroom instruction as participants in the American Institute of Floral Designers Artist-in-Residence program.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Greenhouse Production and Management

The objective of this program is to educate individuals for managerial positions in the greenhouse and related industries.

Career opportunities

Graduates will find job opportunities in greenhouse businesses, garden centers, public horticulture, and horticultural supply companies. Graduates fill the following positions: greenhouse grower, manager, technician, and sales.

Curriculum

The curriculum emphasizes greenhouse environmental control and the production, harvesting, handling, and use of floriculture crops. Pest and pathogen management principles are taught and practiced. In addition to business management and marketing, merchandising and selling plant products are presented.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T First-Year Written Composition
 Gen Comm 112T Essentials of Oral Comm.
 Gen Comm 113T Technical Reporting
 or 114T Business Communication
 Gen S Sc 184T Hispanic Language and Culture in the Workplace

Gen Social Science Elective

Gen Humanities Elective

Gen Stds 201T Personal & Career Orientation
 Gen Biol 125T Gen. Botany w/Applications
 Bus Tec 101T Financial Accounting
 Bus Tec 151T General Economics
 Bus Tec 202T Intro. to Microcomputer Appl.
 Gen Chem 131T Intro. Chemistry I w/ Appl.
 Gen Chem 132T Intro. Chemistry II w/ Appl.
 Gen Math 140T Technical Mathematics I

Technical courses (see pages 42-54 for course titles and descriptions)

Bio Tech 218T General & Applied Entomology
 Bio Tech 219T Pesticides and Their Use
 Bus Tec 204T Spreadsheet Applications
 Bus Tec 231T Fundamentals of Marketing
 Bus Tec 241T Small Business Management
 Crp Soil 221T Intro. to Soils and Soil Mgmt.
 Hort Tec 245T Herbaceous Plants
 Hort Tec 246T Propagation of Nursery & Greenhouse Plants
 Hort Tec 251T Greenhouse Environment Control
 Hort Tec 253T Greenhouse Bedding Plant Production
 Hort Tec 254T Greenhouse Pot Plant Production
 Hort Tec 255T Greenhouse Perennial Production
 Hort Tec 257T Houseplants for Interior Decoration
 Hort Tec 274T Plant Diseases of Ornamentals & Turf
 Hort Tec 289.02T Practicum
 Hort Tec 290.02T Occupational Internship

Facilities

The Ohio State ATI production greenhouses, conservatory, and outdoor display gardens provide opportunities for practical experience in greenhouse floriculture production.

Applied learning opportunities

Students take practicum (supervised, practical work experience in campus greenhouses) which provides an opportunity to apply skills learned in class.

Greenhouse students must also complete an industry internship consisting of 10 weeks of fulltime employment in the greenhouse industry.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Horticultural Science. See curricular information on page 32.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.



Horse Production and Management

The objective of this program is to prepare individuals for employment in the horse industry.

Career opportunities

A variety of opportunities exist in horse training, horse breeding, stable management, and service to the horse industry. Graduates are prepared for employment in independent or corporate-owned units. Additional employment opportunities exist in businesses which supply goods and services to horse-related industries.

Horse production majors may find positions as trainers, breeding farm managers, stallion managers, mare/foal managers, stable managers, breed association representatives, track employees, or sales representatives for feed or equipment companies.

Curriculum

The curriculum includes principles and practical application of training, nutrition, reproduction, genetics, live animal evaluation, health, facility design, farrier science, and efficient farm management. Business and accounting principles are also presented. Practical application is emphasized at Ohio State ATI's horse facilities.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 120T	Gen. Biology w/ Applications
Bus Tec 101T	Financial Accounting
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
or	
Gen Math 145T	Technical Mathematics II
Gen Math 140T	Technical Mathematics I

Technical courses (see pages 42-54 for course titles and descriptions)

Anml Tec 211T	Introduction to Horse Science
Anml Tec 212T	Judging, Fitting, Showing, & Classifying Horses
Anml Tec 213T	Horsemanship & Equitation
Anml Tec 214T	Feeding & Nutrition of Horses
Anml Tec 221T	Animal Anatomy & Physiology
Anml Tec 261T	Farriering
Anml Tec 264T	Horse Health
Anml Tec 265T	Horse Facilities Management
Anml Tec 266T	Horse Breeding & Selection
Anml Tec 289.04T	Practicum
Anml Tec 290.04T	Occupational Internship
Anml Tec 292.04T	Practical Leadership in Horse Mgmt.
Bus Tec 241T	Small Business Management
Eng Tech 215.01T	Tractors & Related Equipment

Select three courses from the following:

Anml Tec 262T	Equine Exercise Science
Anml Tec 267T	Adv. Horsemanship & Equitation
Anml Tec 268.01T	Saddlehorse Training
Anml Tec 269T	Equine Reproductive Mgmt.
Bio Tech 210T	Introductory Biochemistry
Bus Tec 232T	Personal Selling
Crp Soil 262T	Forage Crop Production

Applied learning opportunities

Students take practicum (supervised, practical work experience) which provides an opportunity to apply skills learned in class.

Horse students must also complete an industry internship consisting of 10 weeks of full-time employment in the field of their study or interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Horse Science. See curricular information on page 31.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Hydraulic Power and Motion Control

The objective of this degree program is to prepare students to service, design, and sell hydraulic, electrohydraulic, and pneumatic equipment and systems.

Career opportunities

Hydraulic power and motion control is rapidly expanding into numerous segments of industry. Hydraulic power and motion control graduates are employed as service or production technicians, test technicians, applications engineers, market and product engineers, quality control technicians, troubleshooters, and sales representatives.

Curriculum

Areas of study include power transmission, properties of hydraulic components, repair and maintenance of fluid power system components, system design and analysis, control circuits, electrohydraulics, instrumentation, and troubleshooting fluid power systems.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Social Science Electives	
Gen Humanities Elective	
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Math 145T	Technical Mathematics II
Gen Math 246T	College Math w/ Tech. Appl.
Gen Stds 201T	Personal & Career Orientation
Tec Phys 101T	Technical Physics I
Tec Phys 102T	Technical Physics II

Technical courses (see pages 42-54 for course titles and descriptions)

Two of the following three courses:

Bus Tec 203T	Word Processing Applications
Bus Tec 204T	Spreadsheet Applications
Bus Tec 205T	Database Applications
Eng Tech 204T	Digital Controllers
Eng Tech 209T	Intro. to Computer Aided Design
Eng Tech 263T	Metals and Metal Mfg.
Eng Tech 273T	Methods of Power Transmission
Eng Tech 278T	Electrohydraulics

Eng Tech 279T	Instrumentation & Control Systems
Eng Tech 292T	Problem Solving: Career and Society Applications

Business elective
Technical elective

The student must receive a grade of "C" or higher in the following courses to meet the graduation requirements in Hydraulic Power and Motion Control.

Eng Tech 202T	Basic Electricity and Electronics
Eng Tech 203T	Analog and Digital Electronics
Eng Tech 261T	Basic Pneumatic Systems
Eng Tech 270T	Fundamentals of Fluid Power
Eng Tech 271T	Fluid Power Components
Eng Tech 272T	Hydraulic Circuitry and Systems
Eng Tech 274T	Fluids, Filtration, and Fluid Conveyance
Eng Tech 289.02T	Practicum: Shop Skills
Eng Tech 290.02T	Occupational Internship



Facilities

Students utilize a state-of-the-art fluid power lab with specialized facilities and equipment in hydraulics, pneumatics, and electronics. Students design, assemble, and test an array of fluid power components and systems in the lab.

Applied learning opportunities

Hydraulic Power and Motion Control students must complete an industry internship consisting of 10 weeks of full-time employment in the field of their study.

Hydraulic Power and Motion Control students also participate in state and national industry trade shows, meetings, and scholarship programs.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Landscape Horticulture Technologies

The objective of this program is to educate individuals for leadership positions within the landscape industry specializing in design, construction, or management.

Career opportunities

Career opportunities exist with landscape companies, tree service companies, municipalities, public gardens, or other large scale landscape operations. Graduates of the landscape program can work as landscape designers; crew leaders in either landscape construction or landscape maintenance; service providers for tree care or lawn care companies; landscape managers for private estates or large commercial properties; and sales people for landscape or associated products.

Curriculum

Landscape Horticulture Technologies has three options of study – Design, Construction, and Management. There is common emphasis on the thorough knowledge of landscape plant materials, their aesthetic and cultural characteristics, as well as applications for plants within the landscape industry. Design students specialize in the graphical representation of landscapes and the functional use of landscape materials to solve client's needs. Construction students specialize in the proper installation practices used in landscape construction. Management students specialize in the care of plants and the management of landscape maintenance operations.



General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T First-Year Written Composition
 Gen Comm 112T Essentials of Oral Comm.
 Gen Comm 114T Business Communication
 Gen S Sc 184T Hispanic Language and Culture in the Workplace

Gen Social Science Elective

Gen Humanities Elective

Gen Stds 201T Personal & Career Orientation

Gen Biol 125T Gen. Botany w/Applications

Bus Tec 151T General Economics

Bus Tec 202T Intro. to Microcomputer Appl.

Gen Chem 131T Intro. Chemistry I w/ Appl.

Gen Chem 132T Intro. Chemistry II w/ Appl.
 (Management option only)

Gen Math 140T Technical Mathematics I

Gen Math 145T Technical Mathematics II
 (Construction & Design options only)

Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 101T Financial Accounting

Bus Tec 204T Spreadsheet Applications

Bus Tec 244T Human Resource Management

Crp Soil 221T Intro. to Soils and Soil Mgmt.

*Hort Tec 230T Intro. to Landscape Industry Practices

*Hort Tec 234T Principles of Sustainable Landscape Practices

*Hort Tec 237T Landscape Estimating and Bidding

*Hort Tec 243T Landscape Horticulture Plants & Materials I

*Hort Tec 244T Landscape Horticulture Plants & Materials II

*Hort Tec 290.03T Occupational Internship

Construction Option

Bus Tec 241T Small Business Management

Eng Tech 222T Irrigation and Drainage

Eng Tech 225T Introduction to GIS

Eng Tech 240T Engine Basics

*Hort Tec 235T Landscape Construction I

*Hort Tec 236T Landscape Construction II

*Hort Tec 275T Plant Health Management Elective

Design Option

Bus Tec 206T	Web Design
Bus Tec 232T	Personal Selling
*Hort Tec 231T	Intro. to Landscape Design and Planning
*Hort Tec 232T	Advanced Landscape Design and Planning
*Hort Tec 233T	Planting Design
*Hort Tec 245T	Herbaceous Plants
*Hort Tec 270T	Digital Design Applications I
*Hort Tec 271T	Digital Design Applications II
*Hort Tec 275T	Plant Health Management
*Hort Tec 276T	Outdoor Gardening
Elective	

Management Option

Bio Tech 218T	General and Applied Entomology
Bio Tech 219T	Pesticides and Their Use
Bus Tec 205T	Database Applications
*Hort Tec 223T	Intro. to Turfgrass Mgt.
*Hort Tec 235T	Landscape Construction I
*Hort Tec 238T	Professional Landscape Mgt.
*Hort Tec 245T	Herbaceous Plants
*Hort Tec 274T	Plant Diseases or Ornamentals and Turf
*Hort Tec 278T	Arboriculture
*Hort Tec 289.03T	Practicum in Landscape Hort.

*The student must earn a grade of "C" or higher in these courses to receive an Associate of Applied Science Degree in Landscape Horticulture Technologies.

Facilities

Students utilize the 50-acre campus, 75-acre Secret Arboretum, computer lab, and Landscape Design Studio to complement their class work.

Landscape students must also complete an industry internship or full-time employment in their chosen field of study.



Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Horticultural Science. See curricular information on page 32.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Nursery Management

The objective of this program is to educate and prepare individuals for technical and management positions in nursery, public gardens, and garden center enterprises.

Career opportunities

Career opportunities for technical workers in nursery operation and management are available in product development, sales management, production, and services.

Graduates of the Nursery Management program are prepared for careers as public garden personnel and managers, production superintendents, garden center managers, growers, nursery technicians or managers, plant propagators, salespersons, or storage superintendents.

Curriculum

The curriculum emphasizes soil and soil-less media science, plant nutrition, plant propagation, plant identification and proper use, greenhouse environmental control, and irrigation and drainage for field or container production. Current nursery business management and cultural practices, and sales and marketing of nursery and garden center products are also covered.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 114T	Business Communication
Gen S Sc 184T	Hispanic Language and Culture in the Workplace

Gen Social Science Elective

Gen Humanities Elective

Gen Stds 201T	Personal & Career Orientation
Gen Biol 102T	Gen. Botany w/Applications
Bus Tec 125T	Financial Accounting
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
Gen Math 140T	Technical Mathematics I

Technical courses (see pages 42-54 for course titles and descriptions)

Bio Tech 218T	General & Applied Entomology
Bus Tec 241T	Small Business Management
Bus Tec 244T	Human Resource Management

Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Eng Tech 215.02T	Hort. Power & Equipment

The student must earn a grade of "C" or higher in the following courses to receive an Associate of Applied Science Degree in Nursery Management.

Hort Tec 241T	Intro. to Nursery Production
Hort Tec 242T	Principles of Nursery Mgmt.
Hort Tec 243T	Landscape Horticulture Plants & Materials I
Hort Tec 244T	Landscape Horticulture Plants & Materials II
Hort Tec 245T	Herbaceous Plants
Hort Tec 246T	Propagation of Nursery & Greenhouse Plants
Hort Tec 251T	Greenhouse Environmental Control
Hort Tec 274T	Plant Diseases of Ornamentals & Turf
Hort Tec 289.04T	Practicum
Hort Tec 290.04T	Occupational Internship



Applied learning opportunities

Students take practicum (supervised, practical work experience) which provides an opportunity to apply skills learned in class.

Nursery students must also complete an industry internship consisting of 15 weeks of full-time employment in the field of their study or interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Horticultural Science. See curricular information on page 32.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Power and Equipment

The objective of this program is to prepare students for careers involving the purchase, utilization, maintenance, repair, and sale of off-road machinery.

Career opportunities

Career opportunities are available with agricultural and industrial dealerships, manufacturers, contractors, and fleet operations.

Curriculum

Areas of study include internal combustion engines, tractors, agricultural and industrial equipment, electronics, hydraulics, air conditioning, metal fabrication, power transmission, business management, marketing, and sales.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Tec Phys 101T	Technical Physics I
Tec Phys 102T	Technical Physics II
Gen Math 140T	Technical Mathematics I
Gen Math 145T	Technical Mathematics II



Technical courses (see pages 42-54 for course titles and descriptions)

Two of the following three courses:

Bus Tec 203T	Word Processing Applications
Bus Tec 204T	Spreadsheet Applications
Bus Tec 205T	Database Applications
Eng Tech 243T	Mobile Heating & Air Conditioning
Eng Tech 245T	Engine Diagnosis & Repair
Eng Tech 250T	Welding and Metal Fabrication
Eng Tech 273T	Methods of Power Transmission
Eng Tech 274T	Fluids, Filtration, and Fluid Conveyance
Eng Tech 280T	Equipment Dealership Mgmt.
Eng Tech 292T	Problem Solving: Career and Society Applications

Technical electives

Business elective

The student must receive a grade of “C” or higher in the following courses to meet the graduation requirements in Power and Equipment.

Eng Tech 202T	Basic Electricity and Electronics
Eng Tech 205T	Vehicle Electrical and Electronic Systems
Eng Tech 241T	Intro. to Power and Equipment
Eng Tech 248T	Diesel Engine Systems
Eng Tech 249T	Performance of Mobile Power Units
Eng Tech 262T	Basic Hydraulic Systems
Eng Tech 289.02T	Practicum: Shop Skills
Eng Tech 290.03T	Occupational Internship

Facilities

Students utilize a fully equipped power equipment lab. In addition, students also utilize the institute’s campus equipment along with the latest agricultural equipment in their course work.

Applied learning opportunities

Agricultural/industrial Power and Equipment students must complete an industry internship consisting of 10 weeks of full-time employment in the field of their study and interest.

Students participate in local and state industry trade shows, meetings, and scholarship programs.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Swine Production and Management

The objective of this program is to prepare individuals for successful employment in pork production or in related industries.

Career opportunities

Swine production majors may find positions in areas of pork production, pork industry service, and sales of related products. A variety of opportunities exist in seedstock (purebred and breeding companies) and commercial production. Graduates are prepared for employment in entry level management positions on independently owned or corporate pork production units. Additional employment opportunities exist in agribusinesses such as research laboratories, cooperatives, breed associations, artificial insemination centers, feed and pharmaceutical companies, and meat processors.

Curriculum

The curriculum includes principles and practical application of nutrition, reproduction, genetics, live animal and carcass evaluation, health, facility design, and production records in efficient management of each phase of pork production. Business and accounting principles are also presented. Practical application is emphasized at the swine farrow-to-finish unit at the Ohio State ATI Farm Laboratory.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Stds 201T	Personal & Career Orientation
Gen Biol 120T	Gen. Biology w/ Applications
Bus Tec 101T	Financial Accounting (with Bus Tec 241T)
or	
Bus Tec 102T	Farm Financial Records (with Bus Tec 240T)
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Math 140T	Technical Mathematics I
Gen Chem 132T	Intro. Chemistry II w/ Appl.
or	
Gen Math 141T	Math for Retail Technicians
or	
Gen Math 145T	Technical Mathematics II

Technical courses (see pages 42-54 for course titles and descriptions)

Anml Tec 221T	Animal Anatomy and Physiology
Anml Tec 222.02T	Swine Production I
Anml Tec 223T	Judging Meat Animals
Anml Tec 225T	Principles of Livestock Health
Anml Tec 240T	Principles of Animal Nutrition
Anml Tec 205.01T	Livestock Genetics
or 245T	Genetic Principles for Farm Animal Improvement
Anml Tec 277T	Swine Production II
Anml Tec 289.02T	Practicum
Anml Tec 290.02T	Occupational Internship
Anml Tec 292.02T	Leadership
Bus Tec 241T	Small Business Management (with Bus Tec 101T)
or	
Bus Tec 240T	Principles of Farm Mgmt. (with Bus Tec 102T)

Choose one from below:

Bus Tec 203T	Word Processing Applications
Bus Tec 204T	Spreadsheet Applications
Bus Tec 205T	Database Applications

Free electives (8 credits) — Allows students to take courses in other areas of interest.

Facilities

Ohio State ATI's swine facility houses a 100-sow farrow-to-finish operation, including a 16-crate farrowing house, hot and cold nursery, and a finishing floor.

Applied learning opportunities

Students take practicum (supervised, practical work experience at the ATI swine farm) which provides an opportunity to apply skills learned in class.

Swine students must also complete an industry internship consisting of 10 weeks of full-time employment in the field of their study and interest.

Other degree options

Students interested in earning a bachelor's degree may be interested in the Associate of Science program in Livestock Science. See curricular information on page 33.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Turfgrass Management

The objective of this program is to educate individuals for technical and management positions in the golf course industry.

Career opportunities

Career opportunities exist with golf courses, lawn care services, sod farms, parks, campuses and other institutional grounds, and other decorative and recreational users of turfgrass. With sufficient on-the-job experience, a graduate of the turfgrass program could fill one of the following positions: golf course superintendent, lawn care manager, sod farm manager, turf research technician, or sales representative within the turf industry.

Curriculum

The curriculum emphasizes turfgrass and turfgrass facilities management; maintenance of other ornamental plants; irrigation and drainage; weed, insect, and disease control; pesticide usage; and power equipment maintenance and operation.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 112T	Essentials of Oral Comm.
Gen Comm 113T	Technical Reporting
or 114T	Business Communication
Gen Social Science Electives	
Gen Humanities Elective	
Gen Biol 125T	Gen. Botany w/Applications
Gen Stds 201T	Personal & Career Orientation
Bus Tec 101T	Financial Accounting
Bus Tec 151T	General Economics
Bus Tec 202T	Intro. to Microcomputer Appl.
Gen Chem 131T	Intro. Chemistry I w/ Appl.
Gen Chem 132T	Intro. Chemistry II w/ Appl.
Gen Math 140T	Technical Mathematics I

Technical courses (see pages 42-54 for course titles and descriptions)

Bio Tech 218T	General & Applied Entomology
Bio Tech 219T	Pesticides and Their Uses
Bus Tec 244T	Human Resource Management
Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Eng Tech 219T	Landscape, Nursery, & Turfgrass Equipment
Eng Tech 222T	Irrigation & Drainage for Landscape/Nursery/Turf
Eng Tech 240T	Engine Basics
Hort Tec 220T	Intro. to the Golf Course Mgmt. Industry

Hort Tec 245T	Herbaceous Plants
Hort Tec 249T	Woody Landscape Plant Materials for Turf Managers

The student must earn a grade of “C” or higher in the following core courses to receive an Associate of Applied Science Degree in Turfgrass Management.

Hort Tec 223T	Intro. to Turfgrass Mgmt.
Hort Tec 225T	Turf Practices
Hort Tec 227T	Golf Course Organization & Mgmt.
Hort Tec 272T	Principles of Weed Science in Horticultural Crops
Hort Tec 274T	Plant Diseases of Ornamentals & Turf
Hort Tec 289.05T	Practicum
Hort Tec 290.05T	Occupational Internship

Facilities

Ohio State ATI owns and operates an 18-hole championship golf facility, Hawk’s Nest at Ohio State ATI, which provides students with the opportunity for practical applied experience with turfgrass management. In addition, the Ohio State ATI campus grounds include sports fields, turfgrass plots and a model golf hole.

Applied learning opportunities

Students participate in a turf practicum (supervised, practical experience on campus) which provides an opportunity to apply skills learned in class.

Turfgrass students must also complete an industry internship consisting of 15 weeks (based on OSU’s academic calendar) of full-time employment at an approved turfgrass facility.

Other degree options

Students interested in earning a bachelor’s degree may be interested in the Associate of Science program in Horticultural Science. See curricular information on page 32.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Associate of Science Degree programs

Agricultural Business

The objective of the Agricultural Business program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science in Agribusiness and Applied Economics or to prepare for employment in agricultural business.

Career opportunities

Graduates with a BS in Agribusiness and Applied Economics will find careers in management, finance, marketing, resource management, and community or international development.

Curriculum

The curriculum of the agricultural business program emphasizes the application of business and economic principles to agribusiness; firms that produce, process, distribute, and sell agricultural and natural resource products.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
Agr Comm 390	Oral Expression in Agriculture
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 130	Mathematical Analysis for Business I
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies

Technology courses (see pages 42-54 for course titles and descriptions)

Bus Tec 101T	Financial Accounting
Bus Tec 103T	Managerial Accounting
Bus Tec 232T	Personal Selling
Bus Tec 241T	Small Business Management
Bus Tec 244T	Human Resource Management
Bus Tec 248T	Introduction to Cooperatives
Bus Tec 249T	Fundamentals of Business Finance

Elective courses

Choose from the following general courses:

Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 102	Elementary Chemistry

Or choose other Ohio State ATI courses in consultation with your advisor (Bus Tec 231T, Fundamentals of Marketing, recommended).



Other degree options

An Associate of Applied Science degree is available in Agricultural Commerce. See curricular information on page 8.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Agronomy

The objective of the Agronomy program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree in Crop Science with an emphasis on agronomic crops or to prepare for employment in agricultural business.

Career opportunities

Graduates with a BS in Crop Science will find careers as independent crop producers; professional agricultural consultants; technical representatives for seed, fertilizer, equipment and agrichemical companies; and other related careers.

Curriculum

The curriculum of the agronomy program allows the student to take technical courses in crop production along with general education courses required for the Bachelor of Science degree in Crop Science.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 101	Elementary Chemistry
Chemistry 102	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
HCS 200	The Science of Growing Plants
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies

Technology courses (see pages 42-57 for course titles and descriptions)

Bio Tech 218T	General & Applied Entomology
Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Crp Soil 228T	Fertilizers & Soil Fertility
Crp Soil 260T	Field Crop Production
Crp Soil 262T	Forage Crop Production
Crp Soil 266T	Weed Control in Field Crops
Crp Soil 289T	Practicum in Crop Production
Micrbiol 509	Basic & Practical Microbiology

Elective courses

Choose from the following courses:

Crp Soil 265T	Diseases of Agronomic Crops
ENR 201	Intro. to Environmental Science
Gen Biol 125T	Gen. Botany w/ Applications

Other degree options

An Associate of Applied Science degree is available in Crop Management and Services. See curricular information on page 13.



For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Construction Science

The objective of the Construction Science program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree in Construction Systems Management.

Career opportunities

Graduates with a BS in Construction Systems Management may be employed by contractors and construction supply companies; companies and agencies providing related materials and services; or be self-employed as a contractor, consultant, or owner/operator of a construction business in either the residential, commercial, or heavy highway/infrastructure sectors of the construction industry.

Curriculum

The curriculum of the Construction Science program allows the student to take technical courses in construction along with general education courses required for the Bachelor of Science degree in Construction Systems Management.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Chemistry 101	Elementary Chemistry
Chemistry 102	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies

Technology courses (see pages 42-54 for course titles and descriptions)

Bus Tec 202T	Intro. to Microcomputer Appl.
Bus Tec 204T	Spreadsheet Applications
Eng Tech 209T	Intro. to Computer Aided Design
Eng Tech 210T	Advanced CAD
Eng Tech 253T	Sitework Planning and Construction
Eng Tech 254T	Residential Electrical Systems

Eng Tech 255T	Residential Mechanical Systems and Energy Efficient Construction
Eng Tech 256T	Building Construction: Codes, Foundations and Framing
Eng Tech 257T	Building Construction: Codes, Exterior Coverings and Internal Finishes
Eng Tech 258T	Estimating and Bidding
Eng Tech 259T	Construction Management
Eng Tech 290.01T	Internship
Eng Tech 292T	Problem Solving: Career and Society Applications
Tec Phys 101T	Technical Physics I
Tec Phys 102T	Technical Physics II



Other degree options

An Associate of Applied Science degree is available in Construction Management. See curricular information on page 12.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Dairy Science

The objective of the Dairy Science program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree in Animal Sciences.

Career opportunities

Graduates with a BS in Animal Sciences will find careers as managers of livestock production units; technical representatives for feed, equipment, pharmaceutical, breeding/genetics and other related companies; research or product development technicians; livestock buyers; and others.



Curriculum

The curriculum of the Dairy Science program allows the student to emphasize a specialization in dairy science as part of the broader animal science field.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies

Technology courses (see pages 42-54 for course titles and descriptions)

Anml Tec 201T	Dairy Cattle Milk Production
Anml Tec 203T	Dairy Cattle Reproduction
Anml Tec 221T	Animal Anatomy & Physiology
Anml Tec 240T	Principles of Animal Nutrition
Anml Tec 245T	Genetic Principles for Farm Animal Improvement
or 205.03T	Dairy Cattle Genetics
Anml Tec 252T	Dairy Cattle Health
Anml Tec 257T	Applied Dairy Herd Management
Anml Tec 290.03T	Occupational Internship

Elective technology courses (7-9 credits)

Choose from:

Anml Tec 202T	Judging & Classifying Dairy Cattle
Anml Tec 210T	Intro. to Animal Agriculture
Anml Tec 254T	Dairy Cattle Feeding Management
Anml Tec 255T	Dairy Facilities and Equipment
Anml Tec 258T	Integrated Dairy Farm Business Management

Elective courses

Choose from the following general courses:

Agr Comm 390	Oral Expression in Agriculture
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 102	Elementary Chemistry

Or choose other Ohio State ATI courses in consultation with your advisor.

Other degree options

An Associate of Applied Science degree is available in Dairy Cattle Production and Management. Also available are Associate of Technical Studies programs in dairy equipment, service technician, and dairy farm supply specialist. See curricular information on page 14.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Environmental Resources Science

The objective of the Environmental Resources Science program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree in Environmental Science; Forestry and Urban Forestry; Fisheries and Wildlife Management; or Human Dimensions in Natural Resources in the School of Natural Resources at The Ohio State University.

Career opportunities

Graduates with a BS from the School of Natural Resources will find careers as environmental and ecosystems scientists and consultants, land use management planners and specialists, wildlife and fisheries biologists, environmental health and safety managers, wetland and soil scientists, foresters, environmental policy analysts, outdoor recreation and park administrators, and environmental educators, naturalists, and communicators.

Curriculum

The curriculum of the environmental science program consists of a variety of technical and general courses designed to give students a broad understanding of environmental and natural resources issues.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 121	General Chemistry I
Chemistry 122	General Chemistry II
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies

Technology courses (see pages 42-56 for course titles and descriptions)

Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Crp Soil 228T	Fertilizers and Soil Fertility
Eng Tech 224T	Soil and Water Conservation Systems
ENR 201	Intro. to Environmental Science
ENR 203	Society and Natural Resources

Elective courses

Choose from a list of transferable courses that includes:

Agr Comm 390	Oral Expressions in Agriculture
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Select additional transferable Ohio State ATI courses in consultation with your advisor.

Other degree options

An Associate of Applied Science degree is available in Environmental Resources Management. See curricular information on page 15.



For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Horse Science

The objective of the Horse Science program at Ohio State ATI is for students to complete the equine minor prior to enrolling in a Bachelor of Science program other than Animal Sciences or to complete approximately the first half of a Bachelor of Science degree in Animal Sciences at The Ohio State University.

Career opportunities

Graduates in Horse Science are prepared for careers in horse training, horse breeding, and equine science industries.

Curriculum

The curriculum of the Horse Science program allows students to complete an associate degree which is transferable to several bachelor's degree programs offered in the College of Food, Agricultural, and Environmental Sciences at The Ohio State University.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies



Technology courses (see pages 42-54 for course titles and descriptions)

Anml Tec 211T	Introduction to Horse Science
Anml Tec 212T	Judging, Fitting, Showing & Classifying Horses
Anml Tec 213T	Horsemanship and Equitation
Anml Tec 214T	Feeding and Nutrition of Horses
Anml Tec 261T	Farriering
Anml Tec 264T	Horse Health
Anml Tec 265T	Horse Facilities Management
Anml Tec 266T	Horse Breeding and Selection
Anml Tec 267T	Advanced Horsemanship & Equitation
Anml Tec 268.01T	Saddle Horse Training
Anml Tec 269T	Equine Reproduction Mgmt.
Anml Tec 289.04T	Horse Production & Mgmt. Practicum
Anml Tec 292.04T	Leadership Practicum

Elective courses

Choose from the following general courses:

Agr Comm 390	Oral Expression in Agriculture
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 102	Elementary Chemistry

Or choose other Ohio State ATI courses in consultation with your advisor.

Other degree options

An Associate of Applied Science degree is available in Horse Production and Management. See curricular information on page 18.

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Horticultural Science

The objective of the Horticultural Science program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree in Landscape Horticulture, Turfgrass Science, or Crop Science.

Career opportunities

Graduates with a landscape horticulture specialization will find careers in design, sales, management, interiorscape, and grounds management. Turfgrass Science majors may become golf course superintendents, athletic field managers, lawn care specialists, or sod producers. Crop science specialists will find careers in nursery and greenhouse production, management, consulting, or sales and technical support for agribusiness.



Curriculum

The curriculum of the Horticultural Science program consists of a combination of general and technical courses. Selection of courses from a group of transferable electives will allow students to individualize the curriculum.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
HCS 200	The Science of Growing Plants
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies

Technical courses (see pages 42-54 for course titles and descriptions)

Hort Tec 223T	Intro. to Turfgrass Mgmt.
Hort Tec 243T	Landscape Horticulture Plants and Materials I
Hort Tec 245T	Herbaceous Plants
Hort Tec 251T	Greenhouse Environment Control

Elective courses

Choose from a list of transferable courses that includes:

Agr Comm 390	Oral Expression in Agriculture
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 102	Elementary Chemistry

Select additional transferrable Ohio State ATI courses in consultation with your advisor.

Other degree options

Associate of Applied Science degrees are available in Greenhouse Production and Management (page 17), Landscape Horticulture Technologies (page 20), Nursery Management (page 22), and Turfgrass Management (page 25).

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Livestock Science

The objective of the Livestock Science program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree program in Animal Sciences at The Ohio State University.

Career opportunities

Graduates with a Bachelor of Science in Animal Sciences will find careers as managers of livestock production units; technical representatives for feed, equipment, pharmaceutical, breeding/genetics and other related companies; research or product development technicians; livestock buyers; and others. Practical application is emphasized at the Ohio State ATI farm laboratory.

Curriculum

The curriculum of the Livestock Science program allows the student to choose one of three specializations: beef science, sheep science, and swine science.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies



Technical courses (see pages 42-54 for course titles and descriptions)

Core

Anml Tec 210T	Introduction to Animal Agriculture
Anml Tec 221T	Animal Anatomy and Physiology
Anml Tec 225T	Principles of Livestock Health
Anml Tec 240T	Principles of Animal Nutrition
Anml Tec 245T	Genetic Principles for Farm Animal Improvement
or 205.01T	Livestock Genetics

Beef Science

Anml Tec 222.01T	Beef and Sheep Production I
Anml Tec 274T	Beef Production II
Anml Tec 289.01T	Practicum in Beef Production

Sheep Science

Anml Tec 222.01T	Beef and Sheep Production I
Anml Tec 276T	Sheep Production
Anml Tec 289.01T	Practicum in Sheep Production

Swine Science

Anml Tec 222.02T	Swine Production I
Anml Tec 277T	Swine Production II
Anml Tec 289.02T	Practicum in Swine Production

Elective courses

Choose from the following general courses:

Agr Comm 390	Oral Expression in Agriculture
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 102	Elementary Chemistry
Psych 100	General Psychology
Anml Tec 223T	Judging Meat Animals

Or choose other Ohio State ATI courses in consultation with your advisor.

Other degree options

Associate of Applied Science degrees are available in Beef and Sheep Production and Management (page 9) and Swine Production and Management (page 24).

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Pre-Agricultural Communication

The objective of the Pre-Agricultural Communication program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree program in Agricultural Communication at The Ohio State University.

Career opportunities

Graduates with a Bachelor of Science in Agricultural Communication have many career options. A few of the possibilities include: writers and editors for agricultural publications, advertising and public relations professionals who work with agribusinesses and commodity groups, directors of communication for agricultural organizations, and on-air broadcasters and reporters for agriculture-related radio and television programs.

Curriculum

Agricultural Communication majors must choose an agriculture minor; one should be chosen at ATI. Minor options include: agribusiness, animal science, crop science, equine, horticulture, natural resources, production agriculture, and turfgrass.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
or	130
	Mathematical Analysis for Business
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies
	General Education Elective

Technology courses (see pages 42-55 for course titles and descriptions)

Agr Comm 200	Intro. to Agricultural Communication
Agr Comm 300	Publication Design and Production
Agr Comm 390	Oral Expression in Agriculture

Elective courses

A minimum of 23 transferable elective credits are required including the minor. Students will select a minor in consultation with their advisor.

General elective courses:

Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 102	Elementary Chemistry
ENR 201	Intro. to Environmental Science
Psych 100	General Psychology

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Pre-Agricultural Education

The objective of the Pre-Agricultural Education program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree program in Agricultural Education at The Ohio State University.

Career opportunities

Graduates with a Bachelor of Science in Agricultural Education will find careers as educators in schools, extension, and agribusiness.

Curriculum

The curriculum of the Pre-Agricultural Education program will focus on the agricultural science/production specialization.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
HCS 200	The Science of Growing Plants
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Psych 100	General Psychology
Rural Soc 105	Introduction to Rural Sociology

Technology courses (see pages 42-55 for course titles and descriptions)

AEE 230	Intro. to Agricultural and Extension Education
AEE 280	Early Field Experience in Ag. & Extension Ed.
AEE 342	Fundamentals of Personal and Professional Leadership
Anml Tec 210T	Intro. to Animal Agriculture
Anml Tec 240T	Principles of Animal Nutrition
Crp Soil 221T	Intro. to Soils and Soil Mgmt.
Eng Tech 240T	Engine Basics

Elective courses

Choose from the following general courses:

Agr Comm 390	Oral Expression in Agriculture
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Chemistry 102	Elementary Chemistry

Or choose other Ohio State ATI courses in consultation with your advisor.



For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Pre-Food Business

The objective of the Pre-Food Business program at Ohio State ATI is to allow students to complete the first half of a Bachelor of Science degree program in Food Business Management at The Ohio State University.

Career opportunities

Graduates with a Bachelor of Science in Food Business Management will be prepared for a variety of careers, from commodity purchasing to food product sales and management. From purple ketchup to “smart” water to the growing demand for organic products, new food developments make this a challenging and fast-paced industry.

Curriculum

Ohio State ATI’s Pre-Food Business program provides a balanced curriculum consisting of technical and general coursework, as well as practical experience in business classes.

General courses (see pages 55-57 for course titles and descriptions)

Agr Comm 367	Ag. Issues in Contemporary American Society
AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101 or 121	Elementary Chemistry General Chemistry
Chemistry 102 or 122	Elementary Chemistry General Chemistry
English 110.01	First-Year English Composition
English 291	U.S. Literature: 1865 to Present
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 130	Mathematical Analysis for Business
or 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology
Rural Soc 378	Social Groups in Developing Societies



Technology courses (see pages 42-57 for course titles and descriptions)

Bus Tec 101T	Financial Accounting
Bus Tec 103T	Managerial Accounting
Bus Tec 230T	Marketing of Agri. Products
Bus Tec 231T	Fundamentals of Marketing
Bus Tec 241T	Small Business Management
Bus Tec 244T	Human Resource Management
Food Sci 201 or	Science of Food
Biology 114	Bio Sci: Form, Function, Diversity & Ecology
Micrbiol 509	Basic & Practical Microbiology

Elective courses

Choose from the following general courses:

Agr Comm 390	Oral Expression in Agriculture
Bus Tec 248T	Introduction to Cooperatives
Psych 100	General Psychology

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

1 + 3 Program

Professional Golf Management

The professional golf management (PGM) program is a four-year curriculum for aspiring PGA professionals. Students in the program are required to provide proof of an 18-hole golf handicap of 10 or better. The objective of the PGM program at Ohio State ATI is to allow students to complete the first year of the Bachelor of Science in Professional Golf Management. After one year, students transition to the Columbus campus to complete the remainder of the program.

Career opportunities

Graduates with a BS in Professional Golf Management have diverse career opportunities, including Director of Golf, Head Golf Professional, Director of Instruction, Tournament Director, golf manufacturing sales representative, golf association administrator, golf club repair and golf journalist, as well as position in golf club research and development, general management, and golf retailing.

Curriculum

The PGM curriculum emphasizes the knowledge and skills necessary for success in the golf industry through extensive classroom studies, internship experience, and player development. In addition to business, finance, marketing, turfgrass science and hospitality management classes, the curriculum encompasses specialty classes in swing analysis and swing concepts, tournament operations, golf club repair, club fitting, retail merchandising, golf course design and coaching golf.

Facilities

Ohio State ATI owns and operates an 18-hole championship golf facility, Hawk's Nest at Ohio State ATI, which provides special playing privileges to PGM students in addition to the practical applied learning experiences students receive within the clubhouse and on the grounds. In addition, the Ohio State ATI campus grounds include a model golf hole for convenient practice between classes.

The following PGM courses are offered on the ATI campus:

General courses (see pages 55-57 for course titles and descriptions)

AED Econ 200	Principles of Food & Resource Economics
Biology 113	Bio Sci: Energy Transfer and Development
Chemistry 101	Elementary Chemistry
English 110.01	First-Year English Composition
FAES 100	FAES Survey
History 152	American Civilization since 1877
Mathematics 148	Algebra and Trigonometry and Their Applications
Music 250	Music Cultures of the World
Rural Soc 105	Introduction to Rural Sociology

Technology courses (see pages 42-56 for course titles and descriptions)

HCS 250	Introduction to PGM
HCS 350.01	PGA/PGM Rules & Club Design
HCS 350.02	PGA/PGM Tournament Operations and Car Fleet Mgt
HCS 489A	Occupational Internship

Applied learning opportunities

All students majoring in professional golf management are required to complete five (5) internships prior to graduation. Students receive a total of ten (10) academic credit hours for these work experiences, two (2) per internship. The first of these internships is completed while enrolled at ATI.

Other degree options

Students interested in the management and maintenance of golf facilities may be interested in the Associate of Applied Science in Turfgrass Management (page 25) or the Associate of Science in Horticultural Science (page 32).

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Certificate Programs

Hydraulic Service and Repair

The increasing complexity of equipment and a shortage of qualified maintenance personnel has created an immediate demand for skilled technicians with the ability to maintain, repair and rebuild fluid power components. This Certificate of Competency will prepare individuals with the skills and knowledge to get started in the industry. Students may choose to pursue the Associate of Applied Science degree at a later time.



Career opportunities

Because rebuilding is often more cost effective and quicker than buying new components, many large industrial users and manufacturers seek individuals with the skills to repair or rebuild pumps, valves, motors, and cylinders.

Graduates can enter the work force as a system assembler, component rebuilders, or test technicians. Employment opportunities also exist with firms that specialize in the repair or rebuilding of hydraulic components and industrial machinery.

Curriculum

Areas of study include hydraulic principles of operation, component technology, fluid conveyance, hydraulic component rebuilding, electrical and electronics, and welding metal fabrication.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Math 140T	Technical Mathematics I
Gen Math 145T	Technical Mathematics II
General Social Science Elective	
Gen Stds 201T	Personal & Career Orientation

Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 202T	Intro. to Microcomputer Appl.
Bus Tec Elective	
Eng Tech 202T	Basic Electricity and Electronics
Eng Tech 250T	Welding and Metal Fabrication
Eng Tech 270T	Fundamentals of Fluid Power
Eng Tech 271T	Fluid Power Components
Eng Tech 273T	Methods of Power Transmissions
Eng Tech 274T	Fluids, Filtration, and Fluid Conveyance
Eng Tech 289.03T	Practicum: Component Rebuilding
Eng Tech 289.02T	Practicum: Shop Skills
Eng Tech Elective	

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Sports/Commercial Turf Equipment

The Sports/Commercial Turf Equipment Certificate of Competency program prepares individuals with the technical skills needed for maintaining, troubleshooting, repairing, and rebuilding commercial turf equipment. This program is one of a very few of its type in the country and is attracting the attention of leaders in the green and equipment industries, where the demand for qualified employees continues to expand.

Career opportunities

Graduates work with equipment dealers, wholesalers, manufacturers, lawn care companies, landscape firms, nurseries, golf courses, parks, and professional athletic facilities. Assigned positions include equipment service manager at a golf course, country club, or park; or as a sales representative or service technician with a manufacturer, wholesaler, or dealer. Students may choose to pursue an Associate of Applied Science degree at a later time.



Curriculum

Areas of study include engine principles of operation, diesel engine service and repair, power transmission, hydraulics, electrical and electronics, welding/metal fabrication, and turfgrass management.

General courses (see pages 40-42 for course titles and descriptions)

Gen Comm 111T	First-Year Written Composition
Gen Comm 113T	Technical Reporting
Gen Math 140T	Technical Mathematics I
Gen Social Science	Elective
Gen Stds 201T	Personal & Career Orientation

Technical courses (see pages 42-54 for course titles and descriptions)

Bus Tec 202T	Intro. to Microcomputer Appl.
Eng Tech 202T	Basic Electricity and Electronics
Eng Tech 219T	Landscape, Nursery and Turfgrass Equipment
Eng Tech 240T	Engine Basics
Eng Tech 247T	Compact Diesel Engines
Eng Tech 250T	Welding and Metal Fabrication
Eng Tech 260T	Power Transmission for Turf Equipment
Eng Tech 262T	Basic Hydraulic Systems
Eng Tech 289.02T	Practicum: Shop Skills
Hort Tec 223T	Intro. to Turfgrass Mgmt.
	Technical Elective

For additional information, call Ohio State ATI at 1-330-287-1331 or 1-800-647-8283.

Course offerings

The following pages describe courses offered by the Agricultural Technical Institute. The most current information regarding new courses, changes to existing courses, credit hours, sections, days, times, buildings, rooms, and instructors may be found in the quarterly Master Schedule of Classes.

Explanation of a course listing

A	221T Animal Anatomy and Physiology U 4
B	An introductory study of the structure and functions of the various organ systems of domestic animals.
C	Wi, Sp Qtrs. 3 cl, 1 rec, 1 2-hr lab. Prereq: Gen Biol 120T recommended.

A Course number: 221T

A dagger (†) denotes that the course will not be offered this year. An asterisk (*) indicates that the course is offered every other year.

Course title: Animal Anatomy and Physiology

Instructional level: U—Undergraduate

Credit hours: 4

B Course description:

An introductory study of the structure and functions of the various organ systems of domestic animals.

C Quarters of offering:

Su—Summer; Au—Autumn; Wi—Winter; Sp—Spring

Classroom and laboratory hours: 3 cl, 1 rec, 1 2-hr lab.

Course credit is earned through satisfactory completion of course work which may involve classroom, laboratory, field trip attendance, or internship participation.

Prerequisite(s): Gen Biol 120T recommended. The course number(s) or other information indicates the preparation or classification required to enroll in the course. If no department name is listed, the number(s) refers to the specific course within the same department.

Repeatability clause: Indicates the maximum number of hours a course may be repeated for credit.

General information clause: Gives general information about the course.

General Courses

General Studies

100T Learning Strategies for Success U 3

Focus on aiding students to develop self-awareness, positive attitudes, and learning strategies to improve their academic performance.

Au, Wi, Sp Qtrs. 3 1-hr cl. Credit will not count toward graduation in any degree program.

201T Personal and Career Orientation U 1

Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

Au, Wi Qtrs. 1 cl.

General Studies: Biology

120T General Biology with Applications U 4

A basic course intended to provide a foundation, emphasizing principles and applications of biology.

Au, Wi Qtrs. 3 cl, 1 2-hr lab. Not open to students with credit for Biology 113.

125T General Botany with Applications U 5

Introduction to the fundamental structures and processes of plants including plant anatomy, physiology, morphology, reproduction, and genetics.

Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Not open to students with credit for Hort 300.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

General Studies: Chemistry

131T Introductory Chemistry I with Applications U 4

Develops the basic concepts of atomic structure, bonding, molecular structure, chemical reactions, solutions, equilibrium, acids and bases, and redox.

Au, Wi, Sp Qtrs. 3 cl, 1 1-hr rec, 1 2-hr lab. Prereq or concur: Gen Math 140T. Not open to students with credit for 101T.

132T Introductory Chemistry II with Applications U 4

Emphasis on structure, naming, physical and chemical behavior of organic molecules which pertain to agriculture and related areas.

Au, Wi, Sp Qtrs. 3 cl, 1 1-hr rec, 1 2-hr lab. Prereq: 131T or Chem 101. Not open to students with credit for 102T.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

General Studies: Communication Skills

100T Improving College Reading U 3

A course for practicing strategies designed to improve textbook comprehension, vocabulary, and critical reading, as well as to encourage lifelong reading and learning.

Au, Wi Qtrs. 3 cl, 1 1-hr rec. Credit will not count toward graduation in any degree program. Course required based on placement test.

101T Developing Basic Writing Skills U 3

Instruction to develop writing and usage skills through practice.

Au, Wi Qtrs. 3 cl, 1 1-hr rec. Prereq: ACT score and/or placement test. Credit will not count toward graduation in any degree program.

102T Developing Written Expression U 3

Instruction to improve the writing process as it relates to effective written expression.

Au, Wi Qtrs. 3 cl, 1 1-hr rec. Prereq: ACT score and/or placement test or 101T. Credit will not count toward graduation in any degree program.

111T First-Year Written Composition U 3

A writing course to help the student develop critical thinking and writing skills necessary for success in college and a career.
Au, Wi, Sp Qtrs. 3 cl. Prereq: ACT score and/or placement test or 102T.

112T Essentials of Oral Communication U 3

Surveys the components and functions of oral communication and provides practice in applying effective oral skills to informal and job-related situations.
Su, Au, Wi, Sp Qtrs. 3 cl. Course taught as a full-quarter course
Au, Wi, and Sp. Course taught as a 5-week term course in Sp and Su.

113T Technical Reporting U 3

Principles and practices of technical reporting in the global setting with emphasis on practical applications in educational and professional environments.
Au, Wi, Sp Qtrs. 3 cl. Prereq: 111T or English 110.01. Not open to students with credit for 114T or Agr Comm 367.

114T Business Communication U 3

Principles and practices of business communications in the global setting with emphasis on practical applications involving reading, speaking, and writing.
Au, Wi, Sp Qtrs. 3 cl. Prereq: 111T or English 110.01. Not open to students with credit for 113T or Agr Comm 367.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.
Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies.
This course is graded S/U.

294T Group Studies U 2-5

Group studies in specialized programs.
Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

General Studies: Humanities

190T Humanities as a Window on Cultural Pluralism U 3

This multidisciplinary course seeks to introduce students to art, literature, architecture, and music in their cultural contexts during the first half of the twentieth century.
Au, Sp Qtrs. 3 cl. Prereq or concur: Gen Comm 111T

191T World Music Cultures U 3

Develops an understanding and appreciation of music from various cultures within their cultural context.
Au, Wi Qtrs. 2 1.5- hr cl. Prereq or concur: Gen Comm 111T.
Not open to students with credit for Music 250.

192T World Religions U 3

Develops an understanding of eastern and western religious thought and practice in their cultural context.
Wi, Sp Qtrs. 3 cl. Prereq or concur: Gen Comm 111T

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.
Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies.
This course is graded S/U.

294T Group Studies U 2-5

Group studies in specialized programs.
Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

General Studies: Mathematics

103T Developing Arithmetic and Beginning Algebra Skills U 5

A foundation course in arithmetic and beginning algebra skills. Emphasis is on obtaining competencies necessary to be successful in the Technical Mathematics I course.
Au, Wi, Qtrs. 5 cl. Not open to students with credit for 140T. A grade of C- or better is needed in 103T in order to meet the prerequisite for 140T.

140T Technical Mathematics I U 5

A review of algebra and geometry fundamentals with emphasis on measurement, percent application, two- and three-dimensional geometry application, and direct and inverse proportion.
Au, Wi, Sp Qtrs. 5 cl. Prereq: 103T with a C- or better, or placement test, or permission of instructor. Not open to students with credit for 145T. A grade of C- or better is needed in 140T in order to meet the prerequisite for 145T.

141T Mathematics for Retail Technicians U 4

The mathematics of business and finance, including proportion, the income statement, simple interest, compound interest, annuities, amortization and sinking funds.
Sp Qtr. 4 cl. Prereq: 140T or equivalent or placement test.

145T Technical Mathematics II U 5

A study of technical applications and computational methods involving variation, simultaneous and quadratic equations, graphing, logarithms, and trigonometry.
Au, Wi, Sp Qtrs. 5 cl. Prereq: 140T with a C- or better, or placement test, or permission of instructor.

246T College Mathematics with Technical Applications U 5

A study of topics in college algebra, trigonometry, analytic geometry, and a brief introduction to technical calculus with emphasis on applications.
Au Qtr. 5 cl. Prereq: 145T.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.
Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies.
This course is graded S/U.

294T Group Studies U 2-5

Group studies in specialized programs.
Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

General Studies: Social Sciences

170T† Learning and Leadership U 3

A study of individual differences and styles in preparation for group leadership in the residence hall staff or as a peer tutor.
3 cl. Prereq: Permission of instructor.

171T Personal Development U 3

A course to help a person develop an understanding of individual growth and development, human behavior, and the establishment of human relationships.
Au, Wi, Sp Qtrs. 3 cl. Not open to students with credit for T152.

172T Personal Development and Service Learning U 3

A study of human development, learning styles, tutoring techniques to prepare students for field experience in tutoring.

Au, Wi, Sp Qtrs. 2 cl, 1 3-hr lab. Not open to students with credit for T261. Off-campus field experience working in community agencies.

173T Life Span Psychology U 3

Overview of the stages of human physical, emotional, and social development from infancy through late adulthood.

Su, Au, Wi, Sp Qtrs., 3 cl. Not open to students with credit for T295.01. Course taught as a full-quarter course Au, Wi, and Sp. Course taught as a 5-week term course in Sp and Su.

181T Society and Culture U 3

A study of human group interactions, the organization of social groups, and the impact of groups on individual action.

Au, Wi, Sp Qtrs. 3 cl. Not open to students with credit for T153.

182T Marriage & Family Relationships U 3

A study of personal relationships in marriage with special attention to premarital, spousal, and parent-child interaction.

Au, Wi, Sp Qtrs. 3 cl. Not open to students with credit for T160.

183T Amish Society and Culture in the USA U 3

A study of basic sociological theory with an emphasis on comparing and contrasting dominant US culture and Amish subculture, particularly those of Ohio.

Sp Qtr. 3 cl. Not open to students with credit for T255.

184T Hispanic Language and Culture in the Workplace U 3

Develop a basic Spanish vocabulary for the U.S. workplace with an understanding of the influence of Latino culture on workplace relationships in order to improve the working environment.

Au, Wi Qtrs. 3 cl.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies for students in specialized programs.

Arr. Prereq: Permission of instructor. Repeatable to 10 cr hrs.

295T Seminar Series U 3

Topics of interest on problems and issues facing society.

Su, Au, Wi, Sp Qtrs. 3 cl, 1 rec. Prereq: Permission of instructor. Requires viewing PBS programming. Repeatable to a maximum of 15 cr hrs.

298.01T† Domestic Study Tour U 1-15

Specific content, location, quarter(s) of offering, and prerequisites vary; contact technology office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

298.02T† Foreign Study Tour U 1-15

Specific content, location, quarter(s) of offering, and prerequisites vary; contact technology office for details.

Prereq: Permission of instructor. Repeatable for different titled study tours only.

Technical Physics

101T Technical Physics I U 4

Principles and applications of forces, motion, energy, matter, heat, and thermodynamics.

Wi, Sp Qtrs. 3 cl, 1 rec, 1 2-hr lab. Prereq: Gen Math 145T or Math 148; concur: Gen Math 145T or Math 148 and permission of instructor.

102T Technical Physics II U 4

Continuation of 101T. Principles and applications of electricity and magnetism, mechanical waves and sound, electromagnetic radiation and light, and nuclear energy.

Au, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: 101T.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

Technical Courses

Animal Sciences Technology

201T Dairy Cattle Milk Production U 5

Principles of milk production management with emphasis on mammary function, milking concepts, udder health, milk composition and quality, herd records, and milk marketing.

Au Qtr. 4 cl, 1 rec, 1 3-hr lab.

202T Judging and Classifying Dairy Cattle U 2

Comparative evaluation and classification of dairy cattle according to functional type, conformation, breed characteristics, and profit.

Au Qtr. 2 3-hr labs.

203T Dairy Cattle Reproduction U 4

A study of reproduction in dairy cattle including anatomy, physiology, estrus control and detection, artificial insemination, gestation, diseases, records, and improved management practices.

Wi Qtr. 3 cl, 1 3-hr lab.

204T† Principles of Dairy Cattle Nutrition U 4

Study of the nutritional needs of dairy cattle and of the principles and practices involved in providing balanced rations of various feedstuffs to meet these needs.

3 cl, 1 3-hr lab. Prereq: 221T recommended.

205.01T Breeding for Livestock Improvement - Livestock Genetics U 4

Principles of inheritance and the genetic improvement of livestock through cyto-qualitative and population genetics, utilizing breeding, values, selection, and mating.

Wi Qtr. 4 cl, 1 2-hr recitation. Prereq: Recommended Gen Math 140T, Gen Biol 120T.

205.03T Breeding for Livestock Improvement - Dairy Cattle Genetics U 4

Principles of inheritance and the genetic improvement of dairy cattle through cyto-qualitative and population genetics; utilizing breeding values, selection, and mating systems.

Wi Qtr. 4 cl, 1 2-hr recitation. Prereq: Gen Math 140T; 221T and Gen Biol 120T recommended.

206T* Dairy Cattle Presentation U 2

Principles and skills practiced in fitting and presenting dairy cattle.

Sp Qtr. 1 cl, 1 2-hr lab. Course will be taught during even-numbered years.

210T Introduction to Animal Agriculture U 5

Introduction to animal agriculture; its purpose, terms, products, problems, and basic management principles.

Au, Sp Qtrs. 4 cl, 1 2-hr lab. Not open to students with credit for Anim Sci 200.

211T Introduction to Horse Science U 3

Fundamental survey of the development, function, behavior, production, and management of horses.

Au Qtr. 2 cl, 1 2-hr lab.

212T Judging, Fitting, Showing, and Classifying Horses U 3

Comparative evaluation and classification of horses according to type, conformation, breed characteristics, and performance; introduction to fitting and showing horses.

Wi Qtr. 1 cl, 2 3-hr lab.

213T Horsemanship and Equitation U 3

Fundamentals of equitation; designed to develop a unity between rider and horse through control, dressage, and schooling of the horse as a mount.

Au Qtr. 1 cl, 2 3-hr lab. Concur: 289.04T or 292.04T. Horse science or horse production and management majors or permission of instructor.

214T Feeding and Nutrition of Horses U 3

A study of the nutritional needs of horses and of the principles and practices involved in providing balanced rations of various feedstuffs to meet these needs.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: 211T; Gen Math 140T or Math 104 or Math placement level M or N or L.

221T Animal Anatomy and Physiology U 4

An introductory study of the structure and functions of the various organ systems of domestic animals.

Wi, Sp Qtrs. 3 cl, 1 rec, 1 2-hr lab. Prereq: Gen Biol 120T recommended.

222.01T Introduction to Animal Science – Beef and Sheep Production I U 4

An overall look at the livestock industry with regard to meat production and marketing. An overview of the ruminant meat animals, their needs, our need for them, and the opportunities involved in their production.

Au Qtr. 3 cl, 1 3-hr lab.

222.02T Introduction to Animal Science – Swine Production I U 4

An overall look at the livestock industry with regard to meat production and marketing. Basic principles of management and production of a swine breeding and feeding operation.

Au Qtr. 3 cl, 1 3-hr lab.

223T Judging Meat Animals U 5

Principles of live animal selection and carcass evaluation of beef, sheep, and swine.

Sp Qtr. 5 2-hr labs.

224.01T† Livestock Nutrition – Beef/Sheep Nutrition U 4

A study of the fundamental nutrient needs of beef and sheep and their relation to nutrient content of feedstuffs.

3 cl, 1 3-hr lab. Prereq: Eligible for Gen Math 140T or Math 104; 221T or 210T; or 222.01T or 224.02T

224.02T† Livestock Nutrition – Swine Nutrition U 4

A study of the fundamental nutrient needs of an animal. The principles of swine nutrition: digestion, feedstuffs, and limiting ingredients.

3 cl, 1 3-hr lab.

225T Principles of Livestock Health U 4

The study of immunology, the prevention and treatment of common pathogenic diseases, and other factors influencing animal health in contemporary livestock operations.

Wi Qtr. 3 cl, 1 2-hr lab.

226T Cattle and Sheep Pregnancy, Parturition, and Newborn Care U 2

Processes and procedures involved in fetal development, pregnancy detection, parturition, and associated obstetrics and care of newborn.

Wi Qtr. 2 2-hr lab.

240T Principles of Animal Nutrition U 4

A study of the nutrient needs of farm animals and the principles/practices involved in providing balanced rations of various feedstuffs to meet these needs.

Au, Wi Qtrs. 3 cl, 1 3-hr lab. Prereq: 210T or 221T; Gen Math 140T or Math 104 or Math placement level M or N or L.

245T Genetic Principles for Farm Animal Improvement U 5

Principles of inheritance and the genetic improvement of farm animals through cellular, qualitative, and population genetics; utilizing breeding value, selection, and mating systems.

Wi Qtr. 3 cl, 1 2-hr recitation, 1 2-hr lab. Prereq: Gen Biol 120T or Biology 113; Gen Math 140T or Math 104 or Math placement level M or N or L. Industry applications presented in species specific recitations for beef cattle, dairy cattle, sheep, and swine.

252T Dairy Cattle Health U 4

Study of dairy cattle health, including disease recognition, treatment, and prevention programs, and its relationship to growth, performance, and reproduction.

Sp Qtr. 3 cl, 1 3-hr lab.

254T Dairy Cattle Feeding Management U 3

Principles of dairy cattle feeding management with emphasis on the critical evaluation and formulation of rations in current management situations.

Wi Qtr. 2 cl, 1 rec, 1 3-hr lab. Prereq: 240T.

255T Dairy Facilities and Equipment U 3

Design and management of dairy cattle facilities and associated equipment, emphasizing animal handling and housing, environmental control, milking centers, feeding systems, waste management, and utilities.

Sp Qtr. 2 cl, 1 2-hr rec., 1 3-hr lab. Prereq: 201T and Gen Math 140T or Math 104 or Math placement level M or N or L. 1- or 2-day field trips to dairy farms, may include Saturdays.

257T Applied Dairy Herd Management U 5

Experiences in applying, directing and evaluating dairy herd management procedures and practices at the Ohio State ATI dairy farm.

Su, Au, Wi, Sp Qtrs. Prereq: 201T, 202T, 203T, 240T, and 252T; prereq or concur 245T or 205.03T; and permission of instructor. Students may not enroll for more than 15 credits while taking this course. A grade of C or better is required to meet graduation requirements.

258T Integrated Dairy Farm Business Management U 5

The study of dairy farm business management integrating financial principles and strategy with husbandry practices; emphasis placed on analysis and problem solving.

Sp Qtr. 2 1.5-hr cl, 1 1.5-hr rec, 2 2-hr labs. Prereq: Bus Tec 101T or 102T and 151T or AED Econ 200, 2nd yr standing and a minimum of 15 cr hrs in anml tec course work.

261T Farriering U 3

Study of anatomy and physiology of the equine hoof; proper care of the hoof, gait analysis, and shoeing principles.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: 221T recommended.

262T Equine Exercise Science U 4

The study of conditioning the equine athlete using the basic principles of exercise physiology, energetics, kinetics, and sports medicine.

Sp Qtr. 3 cl, 1 3-hr. lab. Prereq: 211T, 214T; 221T recommended; 289.04T concurrent.

264T Horse Health U 3

Survey of the health and soundness of a horse and its relationship to growth, performance, and reproduction with emphasis on a horse health program.

Au Qtr. 2 cl, 1 2-hr lab.

265T Horse Facilities Management U 3

A study of the functional requirements, design development operation, and maintenance of horse housing and training facilities.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 211T, Bus Tec 101T or 102T.

266T Horse Breeding and Selection U 3

Introductory principles of equine breeding management with emphasis on applied equine reproductive physiology, breeding methods, breeding stock management, and basic genetics.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: 221T or Gen Biol 120T or Biology 113 recommended.

267T Advanced Horsemanship and Equitation U 3

Advanced equitation with an emphasis on competitive riding and showing.

Wi Qtr. 1 cl, 2 3-hr labs. Prereq: 213T with a grade of C or better; concur 289.04T or 292.04T.

268.01T Horse Training – Saddle Horse Training U 4

A study of the principles, theory, and procedures involved with the training of horses from halter breaking to a finished performer.

Sp Qtr. 2 cl, 2 2-hr labs. Prereq: 211T, 267T with a grade of C or better; concur 289.04T or 292.04T.

269T Equine Reproduction Management U 4

Advanced principles of equine breeding management with emphasis on applied equine reproductive physiology, genetic inheritance, management of problem mares and stallions, and applied breeding technology.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 211T and 266T; concur 289.04T or 292.04T.

274T Beef Production II U 5

Advanced principles of management of a beef breeding and feedlot enterprise, coordinating production programs and evaluating economic performance.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 210T or 222.01T, 225T, 240T; prereq or concur 245T or 205.01T.

276T Sheep Production U 5

Study of the management, health, feeding, breeding, housing, and marketing of sheep.

Wi Qtr. 4 cl, 1 3-hr lab. Prereq: 222.01T.

277T Swine Production II U 5

Advanced principles of management of a swine breeding and feeding enterprise, coordinating production programs, and evaluating economic performance.

Sp Qtr. 4 cl, 1 3-hr lab. Prereq: 222.02T.

289.01T Beef/Sheep Production and Management U 1-2

Practical experience in supervised animal laboratories with emphasis on developing and improving competencies related to classroom activities and career objectives.

Su, Au, Wi, Sp Qtrs. Arr. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

289.02T Swine Production and Management U 1-2

Practical experience in supervised animal laboratories with emphasis on developing and improving competencies related to classroom activities and career objectives.

Su, Au, Wi, Sp Qtrs. Arr. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

289.03T Dairy Cattle Production and Management U 1-2

Practical experience in supervised animal laboratories with emphasis on developing and improving competencies related to classroom activities and career objectives.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

289.04T Horse Production and Management U 1-2

Practical experience in supervised animal laboratories with emphasis on developing and improving competencies related to classroom activities and career objectives.

Su, Au, Wi, Sp Qtrs. Arr. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

290.01T Beef/Sheep Production and Management U 3-6

Employment in the animal industry structured to provide varied occupational experiences; supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 222.01T, 2 cr hrs of 289.01T, 2.00 CPHR or above, or permission of instructor. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

290.02T Swine Production and Management U 3-6

Employment in the animal industry structured to provide varied occupational experiences; supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 222.02T, 2 cr hrs of 289.02T, 2.00 CPHR or above, or permission of instructor. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

290.03T Dairy Cattle Production and Management U 3-6

Employment in the animal industry structured to provide varied occupational experiences; supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 CPHR or above, and permission of instructor. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

290.04T Horse Production and Management U 3-6

Employment in the animal industry structured to provide varied occupational experiences; supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 211T, 2 cr hrs of 289.04T, 2.00 CPHR or above, or permission of instructor. Each decimal subdivision is repeatable to a maximum of 7 cr hrs. A grade of C or better is required to meet graduation requirements.

292.01T Beef/Sheep Production and Management U 1-2

Leadership experience in supervised animal laboratories with emphasis on personnel and enterprise management.

Au, Wi, Sp Qtrs. Arr. Prereq: 289.01T and permission of instructor. Each decimal subdivision is repeatable to a maximum of 5 cr hrs. A grade of C or better is required to meet graduation requirements.

292.02T Swine Production and Management U 1-2

Leadership experience in supervised animal laboratories with emphasis on personnel and enterprise management.

Au, Wi, Sp Qtrs. Arr. Prereq: 289.02T and permission of instructor. Each decimal subdivision is repeatable to a maximum of 5 cr hrs. A grade of C or better is required to meet graduation requirements.

292.03T Dairy Cattle Production and Management U 1-2

Leadership experience in supervised animal laboratories with emphasis on personnel and enterprise management.

Au, Wi, Sp Qtrs. Arr. Prereq: 289.03T and permission of instructor. Each decimal subdivision is repeatable to a maximum of 5 cr hrs. A grade of C or better is required to meet graduation requirements.

292.04T Horse Production and Management U 1-2

Leadership experience in supervised animal laboratories with emphasis on personnel and enterprise management.

Au, Wi, Sp Qtrs. Arr. Prereq: 289.04T and permission of instructor. Each decimal subdivision is repeatable to a maximum of 5 cr hrs. A grade of C or better is required to meet graduation requirements.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies for students in specialized programs.

Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

295.01T Seminar – Trends and Issues in Animal Industries U 1-5

Current trends, issues, and technology in animal industries. Current trends and issues facing animal industry officials, managers, employees, and other affected individuals.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Each decimal subdivision is repeatable to a maximum of 10 cr hrs. This course is graded S/U.

295.02T Seminar – Technology and Development in Animal Industries U 1-5

Current trends, issues, and technology in animal industries. In-depth study of the latest technology and developments in animal industries.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. Each decimal subdivision is repeatable to a maximum of 10 cr hrs. This course is graded S/U.

Biotechnology

210T Introductory Biochemistry U 5

An introductory course in biochemistry, which covers the structure, function and metabolism of carbohydrates, lipids, nucleic acids, amino acids and enzymes.

Au Qtr. 5 cl. Prereq: Gen Chem 132T.

215T Survey of Forensic Science U 3

An introduction to the methods and techniques utilized by today's forensic professionals, focusing on the recognition, collection, preservation and analysis of evidence.

Sp Qtr. 2 cl, 1 3-hr lab.

218T General and Applied Entomology U 3

Classification, identification, life cycles, external/internal structures, and functions of insects; common insect pests and their damage; methods of control emphasizing chemicals and their applications.

Su, Au, Wi, Sp Qtrs. 2 cl, 1 3-hr lab. Course taught as a full-quarter course in Au, Wi and Sp. Course taught as a five-week term course in Su.

219T Pesticides and Their Use U 3

A study of the classification of pesticides, their mode of action, physiological effects, persistence in the environment, benefits, hazard, use, performance, and regulation.

Au, Wi, Sp Qtrs. 3 cl. Prereq: Gen Chem 132T or Chem 102 recommended.

220T Animal Tissue Culture U 3

An introductory course in the history, theory, and techniques of maintaining live animal cells in long-term culture.

Au Qtr. 1 cl, 2 2-hr lab. Prereq: Micrbiol 509

270T Introduction to Biotechnology U 4

An introduction to the field of biotechnology, including history and basic laboratory applications (safety, data collection and measurements).

Au Qtr. 2 cl, 2 3-hr lab. Prereq or concur: Gen Math 140T and Gen Chem 131T. Not open to students with credit for LabBioSc 270T.

271T Biotechnology I – Instrumental Analysis U 4

Techniques, procedures, methods of sample collection and preparation, and theory of application and operation for various analytical instruments.

Wi Qtr. 2 cl, 2 3-hr labs. Prereq: 270T. Not open to students with credit for LabBioSc 271T.

272T Biotechnology II – Advanced Molecular Separations U 3

Examines principles of chromatographic separation: gas, liquid and thin layer with applications in food, biological, agricultural and health fields.

Wi Qtr. 1 cl, 2 3-hr labs. Prereq: 270T.

276T Agricultural Products U 3

A study of the screening, quality control, research, and other aspects related to the science of production in agriculture.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 270T.

280T Modern Genetics U 5

The study of the three main branches of modern genetics: classical, molecular and evolutionary/population genetics.

Wi Qtr. 4 cl, 1 2-hr rec. Prereq: 210T

281T Recombinant DNA Technology U 5

A laboratory course in recombinant DNA technology designed as a quarter-long experiment: isolate, purify, modify, amplify and sequence DNA.

Sp Qtr. 2 cl, Arr. Prereq: 280T.

282T Bioinformatics U 3

This course will provide an introduction and overview to commonly used bioinformatics tools and resources along with hands-on application.

Sp Qtr. 2 cl, 1 2-hr rec. Prereq: AEE 387 and 280T.

289.01T Practicum in Biotechnology U 1-6

Practical experience in supervised biotechnology laboratories with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to maximum of 6 cr hrs. A grade of "C" or higher is required to meet graduation requirements.

290.01T Internship in Biotechnology U 3-6

Experience of employment in biotechnology industries, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 CPHR and permission of technology coordinator. A grade of "C" or higher is required to meet graduation requirements.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies for students in specialized programs.

Arr. Prereq: Permission of instructor. Repeatable to maximum of 10 cr hrs.

Business Technology

100T Introduction to Business U 3

Overview of the principles of management, marketing, human resource management, financial, and computer information principles.

Au Qtr. 3 1-hr lec.

101T Financial Accounting U 5

A study of the basic concepts, techniques, procedures, and principles of accounting commonly used in business to prepare financial statements.

Su, Au, Wi, Sp Qtrs. 4 cl, 1 2-hr lab. Not open to students with credit for 102T.

102T Farm Financial Records U 4

A study of basic principles involved in keeping and analyzing farm records from the farm management viewpoint.

Au Qtr. 3 cl, 1 2-hr lab. Not open to students with credit for 101T.

103T Managerial Accounting U 4

Managerial use and interpretation of financial data for the purposes of planning and controlling cost.

Au Qtr. 3 cl, 1 2-hr lab. Prereq 101T and prereq or concur: 151T or AED Econ 200.

141T Personal Financial Management U 1

Personal financial strategies that will enable individuals to manage their financial resources.

Au, Wi, Sp Qtrs. 1 cl.

151T General Economics U 5

Study of macro- and micro-economic principles applicable to business, agriculture, and personal financial decision-making.

Au, Wi, Sp Qtrs. 5 cl. Prereq or concur: Tec Math T102 or Gen Math 140T.

202T Introduction to Microcomputer Applications U 1

A study of word processing, spreadsheets, and database as decision management aids.

Au, Wi, Sp Qtrs. 1 2-hr cl.

203T Word Processing Applications U 1

A study of the features and capabilities of a professional word processor.

Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: 202T or concur. Course always taught as a five-week term course.

204T Spreadsheet Applications U 1

A study of the features and capabilities of professional spreadsheets (Lotus 1-2-3 or comparable).

Su, Au, Wi, Sp Qtrs. Prereq: 202T or concur. Course taught as a full-quarter course Su. Course taught as a five-week term course in Au, Wi and Sp.

205T Database Applications U 1

A study of the features and capabilities of a database as a decision management aid.

Su, Au, Wi, Sp Qtrs. 1 2-hr cl. Prereq: 202T or concur. Course taught as a full-quarter course Su. Course taught as a five-week term course in Au, Wi and Sp.

206T Introduction to Web Design U 1

Principles of planning, designing, developing, implementing and maintaining a web page.

Wi Qtr. 1 2-hr cl.

230T Marketing of Agricultural Products U 3

A study of the agencies, functions, principles, and problems involved in the marketing of agricultural products.

Au Qtr. 3 cl. Prereq: 151T or concur.

231T Fundamentals of Marketing U 3

A general survey of the field of marketing including functions, policies, problems, structure, and strategies.

Su, Au, Wi Qtrs. 3 cl. Prereq or concur: 151T or AED Econ 200.

232T Personal Selling U 4

A study of the basic principles and concepts of personal selling with emphasis on practical application and personal interaction.

Au, Wi, Sp Qtrs. 3 cl, 1 2-hr rec.

233T Advertising and Promotion U 4

The theory of retail advertising and its practical application, with emphasis on planning, implementation, control, merchandise projection, and supportive promotional techniques.

Wi Qtr. 3 cl, 1 2-hr lab.

239T Real Estate Dynamics U 3

Aspects of real estate that affect ownership and marketing of real estate as marketable product investment and personal use property.

Sp Qtr. 3 1-hr cl.

240T Principles of Farm Management U 4

A study of the economic and management principles involved in the buying, financing, organizing, operating, and administering of an agricultural production unit.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq or concur: 151T or AED Econ 200 and Bus Tec 101T or 102T.

241T Small Business Management U 4

A study of small business management focusing on establishing and operating a small entrepreneurial enterprise.

Au, Wi, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: 101T or 102T. Prereq or concur: 151T or AED Econ 200. Not open to students with credit for 240T.

243T Office Management U 3

A study of the responsibilities of the office manager in a modern business office.

Wi Qtr. 2 cl, 1 2-hr lab.

244T Human Resource Management U 4

Principles and practices of recruitment, training, evaluating, and compensating employees.

Au, Wi, Sp Qtrs. 4 cl.

245T Supervisory Management U 3

A study of leadership principles used by supervisors to build skills, improve productivity, resolve conflict, and manage diversity.

Sp Qtr. 3 cl.

247T Business Law U 4

A study of legal principles, contracts, negotiable instruments, leases, sales, product liability, and consumer protection.

Au Qtr. 4 cl.

248T Introduction to Cooperatives U 3

Business organizations, role of government in American business; emphasis on history, legal basis, organization, and operation of cooperatives.

Wi Qtr. 3 cl.

249T Fundamentals of Business Finance U 4

A study of basic finance principles such as financial institutions, time value of money, financial analysis, risk and return, budgeting, and investments.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 101T or 102T, and prereq or concur: 151T or AED Econ 200.

289.02T Practicum in Agricultural Commerce and Office Management U 1-6

Practical experience in supervised business laboratories, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of technology coordinator. Repeatable to a maximum of 6 cr hrs. A grade of C or better is required to meet graduation requirements.

289.03T Practicum in Business Management U 1-6

Practical experience in supervised business laboratories, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Permission of technology coordinator. Repeatable to a maximum of 6 cr hrs. A grade of C or better is required to meet graduation requirements.

290.02T Agricultural Commerce and Office Management Internship U 3-6

Experience of employment in a business structured to provide varied occupational experiences; supervised by a business employer and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 CPHR and permission of technology coordinator. Repeatable to a maximum of 12 cr hrs. A grade of C or better is required to meet graduation requirements.

290.03T Business Management Internship U 3-6

Experience of employment in a business structured to provide varied occupational experiences; supervised by a business employer and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 CPHR and permission of technology coordinator. Repeatable to a maximum of 12 cr hrs. A grade of C or better is required to meet graduation requirements.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies in specialized studies.

Arr. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

Crop and Soil Technology

220T Principles of Sustainable Agriculture U 3

A study of the principles, skills and approaches of sustainable agriculture needed to balance the social, economic and environmental dimensions of farming.

Sp Qtr. 2 cl, 1 2-hr lab.

221T Introduction to Soils and Soil Management U 4

An introduction to soil physical, chemical, biological properties, and plant nutrition with an overview of soil management practices including drainage, irrigation, tillage, and erosion control.

Au, Wi, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq or concur: Gen Math 140T or Math 104 or Math placement level M or N or L, and Gen Chem 131T or Chem 101 or 121.

222T* Soil Formation and Classification Applications U 3

A study of soil genesis, morphology, and classification, including the preparation and interpretation of soil maps and reports for appropriate land uses.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 221T. Course will be taught even-numbered years.

224T* Soil Physics and Mechanics Applications U 3

A study of soil physics and soil mechanics and their agronomic and engineering applications.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 221T. Course will be taught odd-numbered years.

228T Fertilizers and Soil Fertility U 3

Study of fertilizer and lime manufacture, recommendations, application, and fate in soil and application of animal wastes and municipal sludge on agricultural crops.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 221T.

229T* Modeling and Managing Soil Erosion U 3

Study of soil erosion by water and wind utilizing mathematical models to describe the erosion process.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 221T. Not open to students with credit for Env Sc T 229T. Course will be taught odd-numbered years.

260T Field Crop Production U 3

A study of the economic importance, adaptation, cultural practices, harvesting, and cost analysis for producing the major field crops grown in Ohio.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq or concur: 221T.

262T Forage Crop Production U 3

Adaptation, utilization, and culture of those crops grown for hay, pasture, silage, and haylage.

Au, Sp Qtrs. 2 cl, 1 3-hr lab.

265T Diseases of Agronomic Crops U 3

A study of the symptoms, identification, cause, and control for the major agronomic plant diseases.

Au Qtr. 2 cl, 1 3-hr lab.

266T Weed Control in Field Crops U 4

Principles of biological, chemical, and cultural control of weeds in field crops; emphasis on herbicide characteristics.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: Gen Chem 132T and Gen Biol 125T or permission of instructor. Not open to students with credit for Hort Tec 272T.

289T Practicum in Crop and Soil Technology U 1-6

Practical experience in supervised agronomic laboratory, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 6 cr hrs. A grade of C or better is required to meet graduation requirements.

290T Crop and Soil Internship U 3-6

Experience of employment on a commercial farm or crop service business structured to provide varied occupational experiences, supervised by an industry employer and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 CPHR and permission of technology coordinator. Repeatable to a maximum of 12 cr hrs. A grade of C or better is required to meet graduation requirements.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies for students in specialized programs.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

Engineering Technology

202T Basic Electricity and Electronics U 3

Principles of AC and DC electricity and electronics with emphasis on components, operations, and applications.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: Gen Math 140T. The student must receive a grade of "C" or higher to meet graduation requirements in Hydraulic Power and Motion Control and Power and Equipment.

203T Analog and Digital Electronics U 3

An introduction to analog and digital electronics with emphasis on industry applications.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: 202T and Gen Math 145T. The student must receive a grade of "C" or higher to meet graduation requirements in Hydraulic Power and Motion Control.

204T Digital Controllers U 3

A study of digital controllers concentrating on Programmable Logic Controllers and dedicated microcontrollers.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: 203T. Concur: 278T

205T Vehicle Electrical and Electronic Systems U 3

A study of various electrical and electronic systems utilized in off-road machinery.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: 202T and Gen Math 145T. The student must receive a grade of "C" or higher to meet graduation requirements in Power and Equipment.

208T Technical Drafting U 2

Basic principles and application of sketching, drawing, and drafting.

Wi Qtr. 2 2-hr labs.

209T Introduction to Computer Aided Design U 2

Introduction to the principles and applications of technical drawing using computer-aided design (CAD) software.

Au, Wi, Qtrs. 1 cl, 1 3-hr lab. Basic computer skills required. Previous experience with mech drawing or eng graphics or drafting or equiv recommended.

210T Advanced CAD U 2

Principles and applications of advanced features of microcomputer based CAD systems.

Sp Qtr. 1 cl, 1 3-hr lab. Prereq: 209T.

215.01T Power Units and Equipment – Tractors and Related Equipment U 4

A study of power units and equipment with emphasis on operation, maintenance, and management. A study of tractors, power units and agricultural machinery with emphasis on operation, service, maintenance and adjustment for safe and efficient operation.

Sp Qtr. 2 cl, 2 2-hr labs. Not open to students with credit for 215.02T or 215.04T.

215.02T Power Units and Equipment – Horticultural Power and Equipment U 4

A study of power units and equipment with emphasis on operation, maintenance, and management. Operation, maintenance, and management of horticultural power units and equipment.

Au Qtr. 2 cl, 2 2-hr labs. Not open to students with credit for 215.01T or 215.04T

216T Tillage and Planting Equipment U 3

Safety procedures, principles, and methods of adjusting, repairing, and operating machinery used for tillage, crop planting, and chemical application.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 215.01T or placement test.

217T Harvesting Equipment U 3

Safety procedures, principles, and methods of adjusting, repairing, and operating machinery used for harvesting agricultural crops.

Au Qtr. 2 cl, 1 3-hr lab. Prereq: 215.01T or placement test.

219T Landscape, Nursery, and Turfgrass Equipment U 4

Principles, adjustments, repair, safety, and operation of equipment used in the landscape, nursery, and turfgrass industries.

Wi Qtr. 2 cl, 2 2-hr labs. Prereq: 240T.

221T† Surveying and Mapping U 3

Surveying techniques, procedures, and use of equipment for land measurement and mapping.

2 cl, 1 3-hr lab. Prereq: Gen Math 140T or Math placement level M or N or L. Not open to students with credit for 205T.

222T Irrigation and Drainage for Landscape/Nursery/Turf U 3

Principles of selection, installation, maintenance, and operation of equipment and materials used in ornamental horticulture irrigation and drainage systems.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: Gen Math 140T or Math 104. Not open to students with credit for 224T. Course taught as a five-week term course.

224T Soil and Water Conservation Systems U 5

Introduction to erosion control, irrigation, drainage, and wetland systems with an emphasis on land surveying and mapping, system selection, and design.

Sp Qtr. 3 cl, 2 3-hr labs. Prereq: Crp Soil 221T.

225T Introduction to Geographic Information Systems U 3

A study of spatial relationships using global positioning and geographic information systems in urban and rural landscapes.

Sp Qtr. 1 cl, 2 2-hr labs. Prereq: Gen Math 140T or Math 104 or Math placement level M or N or L.

231T* Farmstead Systems for Storage and Processing of Agronomic Crops U 4

A study of practical methods of on-farm handling, processing, and storage of cereal, field, and forage crops.

Wi Qtr. 2 cl, 2 2-hr labs. Prereq: Tec Math T102 or Gen Math 140T. Course will be taught even-numbered years.

240T Engine Basics U 4

A study of the theory of operation, service, maintenance, and repair of small single- and multiple-cylinder engines.

Au, Wi Qtrs. 2 cl, 2 2-hr labs. Prereq or concur: Gen Math 140T or Math 104 or Math placement level M or N or L.

241T Introduction to Power and Equipment U 3

An introduction to the off-road machinery industries, their past and future, and the application of engineering principles to the associated equipment.

Au Qtr. 2 cl, 1 3-hr lab. The student must receive a grade of "C" or higher to meet graduation requirements in Power and Equipment.

243T Mobile Heating and Air Conditioning U 2

Principles, operation, maintenance, service, and repair of mobile heating and air conditioning components and systems.

Sp Qtr. 1 cl, 1 2-hr lab. Prereq: Tec Math T105 or Gen Math 145T.

245T Engine Diagnosis and Repair U 4

An advanced study of multiple cylinder diesel engine diagnostic techniques including repair and rebuilding procedures.

Wi Qtr. 2 cl, 2 3-hr labs. Prereq: 240T or 241T.

247T Compact Diesel Engines U 3

A study of the theory, principles of operation, service, maintenance, and repair of compact diesel engines.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 240T or 241T. Not open to students with credit for 248T.

248T Diesel Engine Systems U 4

A study of the principles, operation, and service of diesel engine systems with emphasis on fuel systems and engine control.

Wi Qtr. 2 cl, 2 2-hr labs. Prereq: 205T and 245T. The student must receive a grade of "C" or higher to meet graduation requirements in Power and Equipment.

249T Performance of Mobile Power Units U 2

Operator comfort and safety, ballast, traction, hitching, engine power ratings, fuel efficiency, and other factors affecting the performance of mobile power units.

Sp Qtr. 1 cl, 1 2-hr lab. Prereq: 248T and Gen Math 145T. The student must receive a grade of "C" or higher to meet graduation requirements in Power and Equipment.

250T Welding and Metal Fabrication U 4

A study of basic welding and metal fabrication including materials, equipment, and techniques.

Au, Sp Qtrs. 2 cl, 2 2-hr labs. Prereq or concur: Gen Math 140T or Math 104 or Math placement M, N or L.

253T Sitework Planning and Construction U 3

Principles and procedures of sitework planning and construction involving residential lots and developments.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: Gen Math 140T or Math 104 or Math placement level M or N or L.

254T Residential Electrical Systems U 4

Principles, equipment, and applications of residential electrical power, illumination, security, and communications systems.

Au Qtr. 3 cl, 1 3-hr lab. Prereq: Gen Math 145T or Math 148, or Math placement level M or N or L.

255T Residential Mechanical Systems and Energy Efficient Construction U 4

Principles, equipment, and applications of residential plumbing, heating, ventilation, and air conditioning systems and energy efficient construction.

Au Qtr. 3 cl, 1 2-hr lab. Prereq: Gen Math 145T or Math 148; Tec Phys 101T.

256T Building Construction: Codes, Foundations and Framing U 5

Principles, materials, and methods of residential construction with emphasis on building codes, foundations, floors, and framing.

Au Qtr. 3 cl, 2 3-hr labs. Prereq or concur: Gen Math 140T or Math 104 or Math placement level M or N or L, and Gen Comm 111T or English 110.01.

257T Building Construction: Codes, Exterior Coverings and Interior Finishes U 4

Principles, materials, and methods of residential construction with emphasis on building codes, exterior coverings, and interior finishes.

Wi Qtr. 3 cl, 1 3-hr lab. Prereq or concur: Gen Math 140T or Math 104 or Math placement level M or N or L, and Gen Comm 111T or English 110.01.

258T Estimating and Bidding U 3

Principles and practices of construction estimating and bidding.

Wi Qtr. 2 cl, 1 rec, 1 2-hr lab. Prereq: 256T, 257T, Bus Tec 204T and 2nd yr standing.

259T Construction Management U 4

Principles and practices of construction project and business management.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 258T and 2nd yr standing.

260T Power Transmission for Turf Equipment U 3

A comparison of power transmission by mechanical and fluid means. Laws of power transmission and mechanisms used are discussed and evaluated.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq: 240T.

261T Basic Pneumatic Systems U 3

Principles, operation, maintenance, service, and application of pneumatic components and systems used for control and automation on industrial equipment.

Au Qtr. 2-hr cl, 1 2-hr lab. Prereq: Gen Math 145T. The student must receive a grade of "C" or higher to meet graduation requirements in Hydraulic Power and Motion Control.

262T Basic Hydraulic Systems U 3

Principles, operation, maintenance, service, and repair of hydraulic components and systems used on industrial and mobile equipment.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: Gen Math 140T or Math 104 or Math placement level M or N or L. The student must receive a grade of "C" or higher to meet graduation requirements in Power and Equipment. Not open to students with credit for 270T.

263T Metals and Metal Manufacturing U 3

Introduction to metals and the metal manufacturing industry, including materials, equipment, processes, and products.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq or concur: Tec Math T102 or Gen Math 140T.

270T Fundamentals of Fluid Power U 3

An introduction to the fluid power industry, its past and future, and the principles of fluid power system operation.

Au Qtr. 2 cl, 1 2-hr lab. Not open to students with credit for 262T. The student must receive a grade of "C" or higher to meet graduation requirements in Hydraulic Power and Motion Control.

271T Fluid Power Components U 3

Detailed investigation of pumps, motors, valves, and cylinders involving principles of operation and performance characteristics.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: 262T or 270T; prereq or concur: Gen Math 140T or Math 104 or Math placement level M or N or L. The student must receive a grade of "C" or higher to meet graduation requirements in Hydraulic Power and Motion Control.

272T Hydraulic Circuitry and Systems U 3

A study of how fluid power components are integrated into a complete system including performance characteristics and energy efficiency.

Au Qtr. 2 cl, 1 2-hr lab. Prereq: 270T; prereq or concur: Gen Math 145T. The student must earn a grade of "C" or higher to meet graduation requirements in Hydraulic Power and Motion Control.

273T Methods of Power Transmission U 3

Comparison of power transmission by mechanical, electrical, and fluidic means; laws of power transmission and mechanisms used are discussed.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq or concur: Gen Math 140T or Math 104 or Math placement level M or N or L.

274T Fluids, Filtration, and Fluid Conveyance U 3

Characteristics of hydraulic fluids; methods of filtering oils and of conveying pressurized fluids.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: 262T or 271T or permission of instructor. The student must receive a grade of "C" or higher to meet graduation requirements in Hydraulic Power and Motion Control.

278T Electrohydraulics U 3

Interface of electricity and electronics with hydraulics to form a controlled power transmission system.

Wi Qtr. 2 cl, 1 2-hr lab. Prereq: 203T and 272T, and Bus Tec 202T and 204T; concur: Eng Tech 204T.

279T Instrumentation and Control Systems U 3

Techniques and equipment used for instrumentation of fluid power systems for purposes of data acquisition and control.

Sp Qtr. 1 cl, 2 2-hr labs. Prereq: 204T and 278T.

280T Equipment Dealership Management U 3

Organization and operation of equipment dealerships with emphasis on the service and parts departments and original equipment manufacturer and distributor marketing.

Wi Qtr. 3 cl. Prereq: 3 cr hrs in agr bus or bus tec.

289.01T Construction Management U 1

Supervised practical experience with emphasis on developing and improving competencies related to classroom and career activities.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. A grade of "C" or better is required to meet graduation and certificate requirements. Repeatable to a maximum of 7 cr hrs. This course is available for EM credit.

289.02T Shop Skills U 2

Supervised practical experience with emphasis on developing and improving competencies related to classroom and career activities.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. A grade of "C" or better is required to meet graduation and certificate requirements. Repeatable to a maximum of 7 cr hrs. This course is available for EM credit.

289.03T Component Rebuilding U 3

Supervised practical experience with emphasis on developing and improving competencies related to classroom and career activities.

Au, Wi, Sp Qtrs. Arr. Prereq: Permission of instructor. A grade of "C" or better is required to meet graduation and certificate requirements. Repeatable to a maximum of 7 cr hrs. This course is available for EM credit.

290.01T Construction Management U 3-6

Employment in engineering technologies, structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Nine cr hrs of required eng tech courses; 2.00 CPHR, and permission of instructor. A grade of "C" or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

290.02T Hydraulic Power and Motion Control U 3-6

Employment in engineering technologies, structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Nine cr hrs of required eng tech courses; 2.00 CPHR, and permission of instructor. A grade of "C" or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

290.03T Power and Equipment U 3-6

Employment in engineering technologies, structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: Nine cr hrs of required eng tech courses; 2.00 CPHR, and permission of instructor. A grade of "C" or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

292T Problem Solving: Career and Society Applications U 3

A multi-discipline, capstone problem-solving course with emphasis on the application of problem solving and related topics in career and society settings.

Sp Qtr. 3 cl. Prereq: 2nd yr standing.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies for students in specialized programs.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

Environmental Sciences Technology

210T Introduction to Ecology U 3

A basic foundation in ecology, including the distribution and abundance of species, population dynamics, community ecology, energy flow and nutrient cycling.

Wi Qtr. 3 cl. Prereq: Gen Biol 120T or 125T.

260T Environmental Laws and Regulations U 3

A study of major U.S. environmental laws and regulations affecting air, water, land, toxic substances, and waste management.

Wi Qtr. 3 cl. Prereq: 210T or permission of instructor.

272T* Environmental Resources in Agricultural Ecosystems U 3

Environmental resource management in agriculture with emphasis on field sample collection and laboratory analysis of soil, water, and animal wastes.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: Gen Math 140T or Math 104 and Gen Chem 131T or Chem 101 or 121. Course will be taught in even-numbered years.

273T* Air, Water, and Soil Analysis U 4

Field sampling and laboratory analysis of air, water, and soil using EPA guidelines and procedures.

Sp Qtr. 2 cl, 2 3-hr labs. Prereq: Bio Tech 271T and 272T. Course will be taught odd-numbered years.

274T* Regulated Waste Management U 3

Characteristics of hazardous materials in industrial society: sources, handling, disposal, and environmental effects and regulations.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: Gen Chem 132T, or permission of instructor. Course will be taught even-numbered years.

289T Practicum in Environmental Sciences Technology U 1-6

Practical experience in supervised environmental and conservation activities with emphasis on developing and improving competencies related to classroom and career objectives.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 6 cr hrs. A grade of "C" or better is required for graduation requirements.

290T Environmental Sciences Internship U 3-6

Experience of employment in the environmental and conservation industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 2.00 CPHR and permission of technology coordinator. Repeatable to maximum of 12 cr hrs. A grade of "C" or better is required for graduation requirements.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue special studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies for students in specialized programs.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs.

295.01T† Seminar – Living With Our Planet Earth U 2

Provides an up-to-date look at global environmental challenges confronting humanity by examining major environmental issues through a variety of case studies.

2 cl. This course requires viewing PBS programming. Not open to students with credit for Alli Agr T295.01.

Horticultural Technology

220T Introduction to the Golf Course Management Industry U 1

Introductory course for first-year students in Turfgrass Management Technology, with emphasis on career identification, career preparation, and placement in the golf course management industry.

Au Qtr. 1 cl.

223T Introduction to Turfgrass Management U 3

An introduction to turfgrasses and their establishment and culture.

Au, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq or concur: Gen Math 140T or Math 104 or Math placement level M or N or L. The student must receive a grade of "C" or higher to meet graduation requirements in Landscape Horticulture Technologies and Turfgrass Management.

225T Turf Practices U 3

A study of culture practices useful for maintenance of fine turfgrass with special emphasis on mathematical calculations and chemical applications.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: Gen Math 140T or Math 104 or Math placement level M or N or L. The student must receive a grade of "C" or higher to meet graduation requirements in Turfgrass Management. Course always taught as a five-week term course.

227T Golf Course Organization and Management U 3

Specialized course in golf course management including the organization, design, construction, equipment, personnel, finances, and maintenance of the golf course.

Au, Wi Qtrs. 2 cl, 1 3-hr lab. Prereq: 272T or 274T, 290.05T and Bio Tech 218T. The student must receive a grade of "C" or higher to meet graduation requirements in Turfgrass Management.

230T Introduction to Landscape Industry Practices U 2

Basic horticultural skills, tools, equipment, terminology, and cultural practices and procedures of the landscape contracting and construction industry and profession.

Au Qtr. 2 cl. The student must receive a grade of "C" or higher to meet graduation requirements in Landscape Horticulture Technologies.

231T Introduction to Landscape Design and Planning U 3

An introduction to landscape drafting, design and planning emphasizing proper planning procedures and considerations, drafting techniques and design representation.

Au, Wi Qtrs. 2 cl, 1 3-hr lab. Prereq: 244T; 245T recommended. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

232T Advanced Landscape Design and Planning U 3

Advanced development of design skills: site inventory/analysis, CAD, master planning and perspectives. Sustainable design, erosion control and other specialty situations are included.

Wi Qtr. 1 cl, 2 3-hr labs. Prereq: 231T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

233T Planting Design U 3

The functional use of plant materials for creating aesthetic, sustainable landscapes.

Sp Qtr. 2 cl, 1 3-hr lab. Prereq: 232T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

234T Principles of Sustainable Landscape Practices U 2

Study of sustainability as it applies to the landscape industry with emphasis on practices that promote ecologically responsible design and management.

Wi Qtr. 2 cl. Prereq: 230T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

235T Landscape Construction I U 3

Techniques and use of materials for hardscape construction as it applies to the landscape industry. Problem solving for calculating materials and costs are also discussed.

Sp Qtr. 2 cl, 1 2-hr lab. Prereq: Gen Math 140T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

236T Landscape Construction II U 2

The second of a two-course sequence dealing with the actual physical construction of selected landscape features.

Sp Qtr. 2 3-hr labs. Prereq: 235T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

237T Landscape Estimating and Bidding U 2

Introductory course on reading and interpreting contract drawings and specifications, quantity take-offs, cost estimating and bidding associated with residential and small commercial landscape activities.

Wi Qtr. 2 cl. Prereq: Gen Math 140T, math placement L, M, or N, and prereq or concur: Bus Tec 204T.

238T Professional Landscape Management U 4

Capstone course focusing on the integration of horticultural practices with related landscape and grounds management practices to provide quality landscape management.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 230T, 234T, 274T, Bio Tech 218T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

241T Introduction to Nursery Production U 4

Introductory course covering commercial nursery production operations and management to establish or develop a production nursery covering field grown and container grown nursery stock.

Au Qtr. 2 cl, 2 3-hr lab. Prereq: 244T, Gen Biol 125T. Recommended 245T. The student must receive a grade of "C" or higher to meet graduation requirements in Nursery Management.

242T Principles of Nursery Management U 4

Principles of nursery management with an emphasis on the marketing, production and scheduling, and construction and design of facilities.

Sp Qtr. 2 cl, 2 3-hr lab. Prereq: 241T. The student must receive a grade of "C" or higher to meet graduation requirements in Nursery Management.

243T Landscape Horticulture Plants and Materials I U 3

Study of deciduous shade trees and narrowleaf evergreen trees including their identification, growth habits, ornamental features, environmental adaptation, utilization, and management in the landscape.

Au, Sp Qtrs. 2 cl, 1 3-hr lab. The student must receive a grade of "C" or higher to meet graduation requirements in Landscape Horticulture Technologies and Nursery Management.

244T Landscape Horticulture Plants and Materials II U 3

Study of deciduous flowering trees, shrubs, vines, and broadleaf evergreens including their identification, growth habits, ornamental features, environmental adaptations, utilization, and landscape management.

Su, Wi Qtrs. 2 cl, 1 3-hr lab. Prereq: 243T. The student must receive a grade of "C" or higher to meet graduation requirements in Landscape Horticulture Technologies and Nursery Management.

245T Herbaceous Plants U 3

The identification, culture and use of herbaceous plants, including annuals, perennials, bulbs, ornamental grasses and other specialty plants.

Su, Wi, Sp Qtrs. 2 cl, 1 3-hr lab. The student must receive a grade of "C" or higher to meet graduation requirements in Landscape Horticulture Technologies and Nursery Management.

246T Propagation of Nursery and Greenhouse Plants U 4

Principles, techniques, skills, materials, and facilities used to propagate herbaceous and woody plants with emphasis on commercial propagation methods.

Wi, Sp Qtrs. 2 cl, 2 2-hr labs. Prereq: Gen Biol 125T or Biology 113. The student must receive a grade of "C" or higher to meet the graduation requirements in Nursery Management.

248T† Garden Center Management U 3

Basic garden center operation: garden center history, site selection, layout and design, plant selection, displays and merchandising, customer relations, and advertising.

2 cl, 1 3-hr lab.

249T Woody Landscape Plant Materials for Turf Managers U 3

Identification, cultural practices, and use of woody trees, shrubs, vines, and groundcovers.

Au, Sp Qtrs. 2 cl, 1 3-hr lab. Not open to students with credit for 243T or 244T.

251T Greenhouse Environment Control U 4

Principles of sustainable greenhouse operation and management. Topics include greenhouse construction, benches, heating, cooling, root media, fertilizers, irrigation, light, photoperiodism and integrated pest management.

Au, Wi Qtrs. 3 cl, 1 3-hr lab. The student must receive a grade of "C" or higher to meet the graduation requirements in Nursery Management.

253T Greenhouse Bedding Plant Production U 4

Principles and practices of bedding plant production, including seed quality, sowing and germination; vegetative propagation; flat and hanging basket production; pests and pathogens; and marketing.

Wi Qtr. 3 cl, 1 3-hr labs. Prereq: 251T.

254T Greenhouse Pot Plant Production U 4

Principles and practices of potted plant production, including propagation, planting, production techniques, floral induction treatments, plant height regulation, insect and disease management.

Sp Qtr. 3 cl, 1 3-hr lab. Prereq: 251T and 253T.

255T Greenhouse Perennial Plant Production U 3

Principles and practices of greenhouse perennial plant production, including propagation, vernalization, photoperiodic treatments, greenhouse production techniques, insect pests, diseases, and marketing.

Au Qtr. 2 cl, 1 3-hr lab. Prereq: 251T and 253T.

257T Houseplants for Interior Decoration U 4

Identification, culture, and use of plants grown and displayed in indoor living areas and conservatories.

Wi Qtr. 3 cl, 1 3-hr lab.

258T Commercial Interior Plantscaping U 3

Principles and practices of the acclimatization, installation, maintenance, rotation, and design of interior plantscapes; pests and diseases; legal aspects and identification of interior plantscaping species.

Wi Qtr. 2 cl, 1 3-hr lab. Prereq or concur: 257T.

262T Basic Floral Design U 4

A basic course dealing with principles and elements of floral design and techniques for creating flower arrangements and corsages.

Au Qtr. 2 cl, 2 3-hr lab.

263T Post-Harvest Flower Care U 1

Principles and practices of post-harvest flower care from producer to consumer with emphasis on identification, proper care, and handling at the retail level.

Sp Qtr. 1 cl

264T Commercial Floral Design U 4

An intermediate course dealing with arrangements sold daily in traditional flower shops. Design skill, speed, creativity, pricing, and salability are emphasized.

Wi Qtr. 2 cl, 2 3-hr lab. Prereq: 262T.

265T Flowers for Celebrations I U 4

A specialized course dealing with consulting, planning, organizing, and creating floral designs and decor for celebrations, with emphasis on wedding bouquets and flowers to wear.

Au Qtr. 2 cl, 2 3-hr labs. Prereq: 264T. Not open to students with credit for Hort Tec T266.

267T Contemporary Floral Design U 3

An advanced course emphasizing the artistic nature of floral design; contemporary American, European, and Japanese styles and trends are covered.

Sp Qtr. 1 cl, 2 3-hr labs. Prereq: 269T.

268T Retail Flower Shop Operation U 3

Principles and practices in management and operation of the retail flower shop.

Au Qtr. 2 cl, 1 3-hr lab.

269T Flowers for Celebrations II U 4

A specialized course dealing with consulting, planning, organizing, and creating floral designs and decor for wedding ceremonies and receptions, parties, and celebrations of life (funerals).

Wi Qtr. 2 cl, 2 3-hr labs. prereq: 265T

270T Digital Design Applications I U 1

Introductory digital photography and image editing course emphasizing composition, lighting, and exposure. Digital correction and editing with emphasis on horticultural marketing and portfolio development.

Au Qtr. 1 3-hr lab. Prereq: Bus Tec 202T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

271T Digital Design Applications II U 1

Introduction to digital design software used to enhance and create landscape designs in the 2-dimensional, 3-dimensional and photo-realistic formats.

Au Qtr. 1 3-hr lab. Prereq: Bus Tec 202T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

272T Principles of Weed Science in Horticulture Crops U 4

A study of weed classification, ecology, plant competition, herbicide formulation, properties and uses of herbicides, and weed management in horticultural crops.

Au, Sp Qtrs. 3 cl, 1 2-hr lab. Prereq: Gen Chem 132T and Gen Biol 125T or permission of instructor. Not open to students with credit for Crp & Soil 266T. The student must receive a grade of "C" or higher to meet the graduation requirements in Turfgrass Management.

274T Plant Diseases of Ornamentals and Turf U 3

Principles and practices in diagnosing and treating plant diseases on woody ornamentals and turf.

Su, Au, Wi Qtrs. 2 cl, 1 3-hr lab. Prereq: 223T or 243T or 245T or 249T. The student must receive a grade of "C" or higher to meet the graduation requirements in Landscape Horticulture Technologies, Nursery Management, and Turfgrass Management. Course taught as a full-quarter course Au and Wi. Course taught as a five-week term course in Su.

275T Plant Health Management U 4

An introduction to the care of woody and herbaceous ornamental plants including landscape sustainability and holistic management practices.

Sp Qtr. 3 cl, 1 2-hr lab. Prereq: 244T, Gen Biol 125T; 245T recommended. Not open to students with credit for 274T and Bio Tech 218T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

276T Outdoor Gardening U 3

Fundamentals of basic gardening with emphasis on planning, planting, and maintaining decorative utilitarian gardens.

Sp Qtr. 2 cl, 1 3-hr lab. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

278T Arboriculture U 3

Specialized course in tree culture emphasizing selection, planting, general maintenance activities, and diagnosis and management of tree problems.

Au, Sp Qtrs. 2 cl, 1 3-hr lab. Prereq: Gen Biol 125T; prereq or concur: 243T or 249T. The student must receive a grade of "C" or better to meet graduation requirements in Landscape Horticulture Technologies.

289.01T Practicum in Floral Design and Marketing U 1-2

Practical experience in supervised horticultural laboratories, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 262T and permission of instructor. Repeatable to a maximum of 7 cr hrs. A grade of "C" or higher is required to meet graduation requirements.

289.02T Practicum in Greenhouse Production and Management U 1-2

Practical experience in supervised horticultural laboratories, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 7 cr hrs. A grade of "C" or higher is required to meet graduation requirements.

289.03T Practicum in Landscape Horticulture Technologies U 1-2

Practical experience in supervised horticultural laboratories, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 7 cr hrs. A grade of "C" or higher is required to meet graduation requirements.

289.04T Practicum in Nursery Management U 1-2

Practical experience in supervised horticultural laboratories, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 7 cr hrs. A grade of "C" or higher is required to meet graduation requirements.

289.05T Practicum in Turfgrass Management U 1-2

Practical experience in supervised horticultural laboratories, with emphasis on developing and improving competencies related to classroom and career activities.

Su, Au, Wi, Sp Qtrs. Arr. Repeatable to a maximum of 7 cr hrs. A grade of "C" or higher is required to meet graduation requirements.

290.01T Floral Design and Marketing Internship U 3-6

Experience of employment in the horticultural industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 264T and 2.00 CPHR or above. A grade of C or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

290.02T Greenhouse Production and Management Internship U 3-6

Experience of employment in the horticultural industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 251T with a grade of C or better and 2.00 CPHR or above. A grade of C or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

290.03T Landscape Horticulture Technologies Internship U 3-6

Experience of employment in the horticultural industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 230T, 243T, and 244T with a grade of C or better in each, CPHR 2.00. A grade of C or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

290.04T Nursery Management Internship U 3-6

Experience of employment in the horticultural industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 243T, and 244T with a grade of C or better in each, CPHR 2.00. A grade of C or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

290.05T Turfgrass Management Internship U 3-6

Experience of employment in the horticultural industry, structured to provide varied occupational experiences, supervised by an industry employer, and coordinated by faculty.

Su, Au, Wi, Sp Qtrs. Arr. Prereq: 243T, and 244T with a grade of C or better in each, CPHR 2.00. A grade of C or better is required to meet graduation requirements. Repeatable to a maximum of 12 cr hrs.

293T Individual Studies U 1-5

Designed to give students an opportunity to pursue studies not otherwise offered.

Su, Au, Wi, Sp Qtrs. Prereq: Permission of instructor. Not open to students with credit for Plnt Tec T293. Repeatable to a maximum of 10 cr hrs in any combination of technologies. This course is graded S/U.

294T Group Studies U 2-5

Group studies for students in specialized programs.

Arr. Prereq: Permission of instructor. Not open to students with credit for Plnt Tec T293. Repeatable to a maximum of 10 cr hrs.

Associate of Science Courses

Agricultural Communication

200 Introduction to Agricultural Communication U 5

History and development of mass communication and its application in agriculture. Examination of career opportunities and skills needed to enter the profession.

Au Qtr. 2 2.5-hr cl. Open only to major in agr comm or written permission of instructor. Limited to freshmen, sophomores, and transfer students. Prereq for Comm 221 for agr comm majors only.

300 Publication Design and Production U 5

Application of layout and design principles to produce print and/or electronic documents for various audiences.

Wi Qtr. 2 2.5-hr cl.

367 Agricultural Issues in Contemporary American Society U 5

Development of skills in reading, writing, speaking, listening, critical thinking, and appreciation of diversity in agriculture and the United States society.

Wi, Sp Qtrs. 1 2-hr lec, 2 1.5-hr rec. Prereq: English 110 or 111 or equiv, soph standing; or permission of instructor. GEC second writing and social diversity course.

390 Oral Expression in Agriculture U 5

Oral expression theory and practice in an agricultural environment.

Wi, Sp Qtrs. 2 2-hr cl, 1 2-hr lab. Prereq: Second writing course.

Agricultural, Environmental, and Development Economics

200 Principles of Food and Resource Economics U 5

Microeconomic principles applied to allocation issues in the production, distribution, and consumption of food and natural resource use.

Wi, Sp Qtrs. 5 cl. Not open to students with credit for H200, or Econ 200. This course available for EM Credit. BER/GEC/LAR course. SS Admis Cond course.

Agricultural and Extension Education

230 Introduction to Agricultural and Extension Education U 3

Examining and synthesizing the historical and philosophical foundations of education, extension education, and career-technical education, and relevant career options.

Wi Qtr. 2 1.5 hr cl. Not open to students with credit for 280 prior to Wi 2004.

280 Early Field Experience in Agricultural and Extension Education U 2

Experiencing career options in agricultural and extension education.

Au Qtr. Arr. Prereq: 230; or 230D concurrently by permission of instructor. Off campus field experience.

342 Fundamentals of Personal and Professional Leadership U 5

Designed to develop an understanding of leadership with particular emphasis on theory and practice relative to effective functioning as leaders.

Sp Qtr. 3 1.5 hr cl.

387 Data Analysis in Applied Sciences U 5

Application and interpretation of descriptive and inferential statistics in applied sciences associated with agriculture.

Au Qtr. 2 2-hr cl, 1 2-hr lab. Prereq: Math 116, 130, or 148; and basic knowledge of microcomputer use. Not open to students with credit for Agr Econ 205 or AED Econ 205 or HCS 260 or Anim Sci 260; Agronomy 210; Anim Sci 210; or Stat 125, 135, or 145. GEC course.

Biology

113 Bio Sci: Energy Transfer and Development U 5

Exploration of biology and biological principles; evolution and the origin of life, cell structure and function, bioenergetics, and genetics. A broad introduction to biology comprises both Biology 113 and 114.

Au Qtr. 3 cl or 2 1.5-hr cl, 1 3-hr lab, 1-hr rec. Prereq: Chem 101 or 121 or H201. Not open to students with credit for H115. This course and 114 provide a comprehensive two-quarter sequence in general biology. This course is available for EM credit. GEC bio sci course. NS Admis Cond course.

114 Bio Sci: Form, Function, Diversity, and Ecology U 5

Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 113 and 114.

Wi Qtr. 4 cl, 1 3-hr lab. Prereq: 113. Not open to students with credit for H116. This course is available for EM credit. GEC bio sci course. NS Admis Cond course.

Chemistry

101 Elementary Chemistry U 5

Introductory general chemistry for non-science majors, including dimensional analysis, atomic structure, bonding, chemical reactions, states of matter, solutions, chemical equilibrium, and acids and bases.

Au, Wi Qtrs. 4 cl, 3 lab hrs. Prereq: Eligibility to enroll in Math 116. Not open to students with credit for 121 or H201. Safety glasses must be worn in lab. This course is available for EM credit, with permission. GEC phys sci course. NS Admis Cond course.

102 Elementary Chemistry U 5

Introductory organic and biological chemistry, including saturated and unsaturated hydrocarbons, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, stereoisomerism, carbohydrates, lipids, proteins, and nucleic acids.

Sp Qtr. 4 cl, 3 lab hrs. Prereq: 101. Safety glasses must be worn in lab. This course is available for EM credit, with permission. GEC phys sci course. NS Admis Cond course.

121 General Chemistry U 5

First course for science majors and engineering students, covering dimensional analysis, atomic structure, the mole, stoichiometry, chemical reactions, thermochemistry, electron configuration, periodicity, bonding, and molecular structure. Sp Qtr. 4 cl, 3 lab hrs. Prereq: One unit of high school chem and eligibility to enroll in Math 150. Not open to students with credit for H201. Safety glasses must be worn in lab. This course is available for EM credit, with permission. GEC phys sci course. NS Admis Cond course.

122 General Chemistry U 5

Continuation of 121 for science majors, covering acids and bases, redox reactions, gases, liquids, solids, solutions, colligative properties, kinetics, and chemical equilibrium.

Au Qtr. 4 cl, 3 lab hrs. Prereq: 121 or completion of 101 with a grade of A or A- and eligibility to enroll in Math 150. Not open to students with credit for 125 or H202. Safety glasses must be worn in lab. This course is available for EM Credit, with permission. GEC phys sci course. NS Admi Cond course.

English

110 First-Year English Composition

Practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers.

Au, Wi Qtrs. No prereq except when testing determines 052, 053, 106, 107, 109.01, 109.02, 110.03 or EDU T&L 108.01 to be required. Not open to students with credit for 110, 110C, 110L, 110W, H110, 111, H111 or H167. This course is available for EM credit only through the AP program. GEC first writing course.

110.01 First-Year English Composition U 5

Prereq: English placement level 4 or 109.02 or EDU T&L 108.01. Not open to students with credit for 110, 110.02 or 110.03.

291 U.S. Literature: 1865 to Present U 5

Introductory study of significant works of U.S. literature from 1865 to the present.

Wi, Sp Qtrs. Prereq: 110 or 111 or equiv. Either 290 or 291 is required of non-honors English majors. GEC arts and hums lit course.

Environment and Natural Resources

201 Introduction to Environmental Science U 5

Introduction to environmental science, the ecological foundation of environmental systems, and the ecological impacts of environmental degradation by humans.

Au Qtr. 4 cl, 1 dis. GEC bio sciences course.

203 Society and Natural Resources U 5

Introduction to interactions between humans, natural resources, and ecosystems from a social science perspective.

Sp Qtr. 4 cl, 1 dis. GEC BREADTH; Social Sciences; Human, Natural, and Economic Resources.

Food, Agricultural and Environmental Sciences

100 Food, Agricultural and Environmental Sciences Survey U 1

Academic requirements; University procedures; grading system, resources; student rights and responsibilities; overview of academic areas of study.

Au, Wi Qtrs. 2 cl. Not open to students with credit for 101, Arts Col 100, Arts&Sci 100, Engineer 100, Home Ec 100, Nat Res 100, or UVC 100 or H100.

History

152 American Civilization since 1877 U 5

The political, constitutional, social, and economic development of the United States from the era of Reconstruction to the present.

Au, Wi Qtrs. Prereq or concur: English 110 or 111. Not open to students with credit for 150.02. This course is available for EM credit. GEC historical survey course. SS Admis Cond course.

Horticulture and Crop Science

200 The Science of Growing Plants U 5

Study of the environmental, genetic, and cultural factors which influence the cultivation of plants for food, fiber, ornamental, and landscape uses.

Wi Qtr. 5 cl. Prereq: Biology 101 or 113 or H115 or PCMB 101 or Chem 101 or 121 or H201. This course is available for EM credit. NS Admis Cond course. BER/LAR course. GEC bio sci course.

250 Introduction to Professional Golf Management U 2

Acquaints students with the OSU Professional Golf Management Program which is accredited by the PGA of America. Topics include program overview, components, requirements and facilities/resources available to students.

Au Qtr. 1 1-hr cl, 1 2-hr discussion.

350.01 Professional Development: PGA/PGM Rules and Club Design U 1

A series of seven courses which encompass learning objectives and work experience-related materials included in the PGA of America's Golf PGM Program. Content associated with the PGA of America's level 1 Checkpoint including rules of golf and golf club design and repair.

Wi Qtr. 1 1-hr cl, 1 2-hr discussion.

350.02 Professional Development: PGA/PGM Tournament Operations and Fleet Management U 1

A series of seven courses which encompass learning objectives and work experience-related materials included in the PGA of America's Golf PGM Program. Content associated with the PGA of America's level 1 Checkpoint including tournament operations and car fleet management.

Sp Qtr. 1 1-hr cl, 1 2-hr discussion. Prereq: 350.01.

489A Internship Experience U 1-5

Ten or more weeks of supervised practical experience in an approved enterprise. Seminar required.

Su Qtr. 2 cl. Repeatable to a maximum of 10 cr hrs. Class time TBA quarterly. Each student must present a 25 min seminar.

Mathematics

104 Basic College Mathematics U 5

Systems of equations, arithmetic of polynomials, rational expressions, factoring, fractional equations, inequalities, exponents, quadratic equations, absolute values, functions, and graphs.

Au, Wi, Sp Qtrs. 5 cl. Prereq: 050 or satisfactory score on Ohio State Math placement test or permission of dept. Not open to students with credit for 130 or 148 or 150 or 151.xx. Credit may not count toward graduation in some degree programs.

130 Mathematical Analysis for Business I U 4

Equations, inequalities, absolute value, polynomial functions, matrices, applications to business.

Wi Qtr. 4 cl. Prereq: 104 or placement M or N on the OSU Math placement test, or written permission of department. Not open to students with credit for 150 or higher numbered mathematics courses. This course is available for EM credit.

148 Algebra and Trigonometry and Their Applications U 4

Applications from chemistry, physics and biology involving integer and rational exponents, solving and graphing linear and quadratic equations, systems of equations, trigonometry of acute angles, vectors and exponential equations.

Au, Wi, Sp Qtrs. 4 cl. Prereq: 104 or satisfactory score on Ohio State Math placement test. Not open to students with credit for 150 or higher numbered mathematics course.

150 Elementary Functions U 5

Inverse functions, logarithmic, exponential and trigonometric functions, and their graphs; complex numbers.

Au Qtr. 5 cl. Prereq: 148 or satisfactory score on Ohio State Math Placement Test or permission of dept. Not open to students with credit for 151, 151.xx, 161, 161.xx, 161H01, or H190. This course is available for EM credit.

Microbiology

509 Basic and Practical Microbiology U 5

Provides an understanding of microorganisms and their interaction with the human experience.

Sp Qtr. 3 cl, 2 2-hr labs. Prereq: Biology 101 or 113 or H115. GEC bio sci course. NS Admis Cond course.

Music

250 Music Cultures of the World U 5

A survey of musical cultures outside the Western European tradition of the fine arts.

Wi, Sp Qtrs. 5 cl. Not open to students with credit for Music 140. GEC arts and hums VPA course and global focus course. VPA Admis Cond course.

251† The World of Classical Music U 5

An introduction to the world of classical music and to its genres, composers, styles, societies and historical periods.

5 cl. Not open for credit to music majors. Not open to students with credit for Music 141, H251. A musical background is not required. GEC arts and hums VPA course and western (non-US) course. VPA Admis Cond course.

Psychology

100 General Psychology U 5

Introductory psychology, a prerequisite to advanced courses; the application of scientific method to behavior; topics include learning, motivation, perception, personality, physiological basis of behavior.

Au, Sp Qtrs. 5 cl. SS Admis Cond course. This course is available for EM credit. GEC soc sci individuals and groups course. GEC social diversity in U.S. course.

Rural Sociology

105 Introduction to Rural Sociology U 5

Principles of society, major social institutions, and social change; emphasizes social changes in rural life, rural organizations, population, and family living.

Au, Wi Qtrs. 5 cl. Not open to students with credit for Sociol 101 or 201. BER/GEC/LAR course. SS Admis Cond course.

378 Social Groups in Developing Societies U 5

Discussion of different life experiences, statuses, and behavior of people in major social groupings in developing societies.

Au, Wi Qtrs. 2 2-hr cl. Prereq: 5 cr hrs in rurl soc, sociol, or related social science; or permission of instructor. BER/GEC/LAR course.

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Steven M. Neal, Associate Director
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University Calendar – Subject to change

Autumn Quarter 2010

September 19-21	Welcome Days (Sun., Mon., Tues.)
September 22	Classes begin (Wed.)
November 11	Veterans' Day – no classes, offices closed (Thurs.)
November 25	Thanksgiving Day – no classes, offices closed (Thurs.)
November 26	Columbus Day observed – no classes, offices closed (Fri.)
December 3	Last day of regularly scheduled classes (Fri.)
December 6-8	Final examinations (Mon.-Wed.)
December 12	Autumn commencement, 2 p.m. (Sun.) – Columbus Campus
December 23	President's Day observed – offices closed (Thurs.)
December 24	Christmas observed – offices closed (Fri.)

Winter Quarter 2011

December 31	New Year's Day observed – offices closed (Fri.)
January 3	Classes begin (Mon.)
January 17	Martin Luther King Day – no classes, offices closed (Mon.)
March 11	Last day of regularly scheduled classes (Fri.)
March 14-16	Final examinations (Mon.-Wed.)
March 20	Winter commencement, 2 p.m. (Sun.) – Columbus Campus

Spring Quarter 2011

March 28	Classes begin (Mon.)
May 30	Memorial Day – no classes, offices closed (Mon.)
June 3	Last day of regularly scheduled classes (Fri.)
June 6-8	Final examinations (Mon.-Wed.)
June 11	ATI commencement, 11 a.m. (Sat.) – Fisher Auditorium, OARDC
June 12	Spring commencement, 2 p.m. (Sun.) – Columbus Campus

Summer Quarter 2011

June 20	Quarter and first-term classes begin (Mon.)
July 4	Independence Day observed – no classes, offices closed (Mon.)
July 20	Last day of regularly scheduled classes for first-term courses (Wed.)
July 21-22	Final examinations for first-term courses only (Thurs. and Fri.)
July 25	Second-term classes begin (Mon.)
August 22	Last day of regularly scheduled classes for quarter and second-term courses (Mon.)
August 23-25	Final examinations for quarter and second-term courses (Tues. - Thurs.)
August 28	Summer Commencement, 2 p.m. (Sun.) – Columbus Campus
September 5	Labor Day—offices closed (Mon.)

Autumn Quarter 2011

September 18-20	Welcome Days (Sun., Mon., Tues.)
September 21	Classed begin (Wed.)

Phone numbers and web sites

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(800) 647-8283 (Ohio only)
www.ati.osu.edu
E-mail: ati@osu.edu

Admissions
330-287-1327

Academic Records
330-287-1303

Fees & Deposits
330-287-1264

Financial Aid
330-287-1214
www.ati.osu.edu/financial_aid

Residence Life
330-287-7504
www.housing.osu.edu/ati.asp

Student Success Services
330-287-1340

Business Training/Educational Svcs
1625 Wilson Road
Wooster, OH 44691
330-287-7511
www.shislercenter.ohio-state.edu/nbteshome.asp

Columbus campus Office of Undergraduate Admissions
Enarson Hall
154 West 12th Avenue
Columbus, OH 43210
614-292-3980
www.osu.edu

College of Food, Agricultural, and Environmental Sciences
614-292-6891
www.cfaes.ohio-state.edu

Student Consolidated Services
614-292-0300
<http://scsc.osu.edu/>

Office for Disability Services
614-292-3307
www.ods.ohio-state.edu

Office of Veterans Affairs
614-292-3453
www.hr.osu.edu/vet/contact.htm

Master Schedule of Classes
www.buckeyelink.osu.edu



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