CAREER AND TECHNICAL EDUCATION
STUDENT HANDBOOK

COURSE DESCRIPTIONS
Agriculture:

PROGRAM OF STUDY: Agriculture Engineering and Applied Technologies

**Agriscience**

*Agriscience* is an introductory laboratory science course that prepares students for biology, subsequent science and agriculture courses, and postsecondary study. This course helps students understand the important role that agricultural science and technology serves in the 21st century. In addition, it serves as the first course for all programs of study in the Agriculture, Food and Natural Resources Cluster. Standards in this course are aligned with Tennessee Common Core State Standards for English Language Arts & Literacy in Technical Subjects, Tennessee Common Core State Standards in Mathematics, and Tennessee state standards in Anatomy and Physiology, Biology I, Biology II, Chemistry I, Chemistry II, Environmental Science, Physical Science, Physics, and Physical World Concepts, as well as the National Agriculture, Food and Natural Resources Career Cluster Content Standards. This course counts as a lab science credit toward graduation and college entrance requirements.*

Recommend Prerequisites: None

Recommended Credit: 1

Recommended Grade Level: 9th

Course Code: 5957

**Principles of Agricultural Mechanics**

*Principles of Agricultural Mechanics* is a course introducing students to basic skills and knowledge in construction and land management for both rural and urban environments. This course covers topics including project management, basic engine and motor mechanics, land surveying, irrigation and drainage, agricultural structures, and basic metalworking techniques. Standards in this course are aligned with Tennessee Common Core State Standards for English Language Arts & Literacy in Technical Subjects, Tennessee Common Core State Standards for Mathematics, and National Agriculture, Food, and Natural Resources Career Cluster Content Standards.*

Recommend Prerequisites: Agriscience (5957)

Recommended Credits: 1

Recommended Grade Levels: 10th

Course Codes: 5944
**Agricultural Power and Equipment**

*Agricultural Power and Equipment* is an applied-knowledge course in agricultural engineering with special emphasis on laboratory activities involving small engines, tractors, and agricultural equipment. The standards in this course address navigation, maintenance, repair, and overhaul of electrical motors, hydraulic systems, and fuelpowered engines as well as exploration of a wide range of careers in agricultural mechanics. Standards in this course are aligned with Tennessee Common Core State Standards for English Language Arts & Literacy in Technical Subjects, Tennessee Common Core State Standards in Mathematics, and National Agriculture, Food and Natural Resources Career Cluster Content Standards.*

Recommended Prerequisites: Agriscience (5957) & Principles of Agricultural Mechanics (5944)

Recommended Credits: 1

Recommended Grade Levels: 11th

Course Codes: 5945

---

**Greenhouse Management**

*Greenhouse Management* is an applied-knowledge course designed to prepare students to manage greenhouse operations. This course covers principles of greenhouse structures, plant health and growth, growing media, greenhouse crop selection and propagation, and management techniques. It provides students with the technical knowledge and skills needed to prepare for further education and careers in horticulture production. Greenhouse Management is a dual credit course with statewide articulation. Standards in this course are aligned with Tennessee Common Core State Standards for English Language Arts & Literacy in Technical Subjects, Tennessee Common Core State Standards in Mathematics, and Tennessee state standards for Biology I and Biology II, as well as National Agriculture, Food and Natural Resources Career Cluster Content Standards.*

Recommended Prerequisites: Agriscience (5954)

Recommended Credit: 1

Recommended Grade level: 11th

Course Code: 5954
The following course is scheduled to be added to the Agricultural Course Offerings within the next three years to complete our Program of Study.

**Agricultural and Biosystems Engineering**

*Agricultural and Biosystems Engineering* is a capstone course that prepares students for further study or careers in engineering, environmental science, agricultural design and research, and agricultural mechanics. Special emphasis is given to the many modern applications of geographic information systems (GIS) and global positioning systems (GPS) to achieve various agricultural goals. Standards in this course are aligned with Tennessee Common Core State Standards for English Language Arts & Literacy in Technical Subjects, Tennessee Common Core State Standards for Mathematics, and National Agriculture, Food and Natural Resources Career Cluster Content Standards.*

Recommended Prerequisites: Agriscience (5957)

Recommended Credits: 1

Recommended Grade Level: 12th

Course Code: 5963
Business, Management, & Administration:

PROGRAM OF STUDY: Administrative and Information Support

**Computer Applications**

*Computer Applications* is a foundational course intended to teach students the computing fundamentals and concepts involved in the proficient use of common application software. Upon completion of this course, students will gain basic proficiency in word processing, spreadsheets, databases, and presentations. In addition, students will have engaged in key critical thinking skills and will have practiced ethical and appropriate behavior required for the responsible use of technology. Standards in this course are aligned with Tennessee Common Core State Standards for Literacy in Technical Subjects and Tennessee Common Core State Standards in Mathematics.*

Recommended Prerequisite: None

Recommended Credits: 1

Recommended Grade Levels: 8th – 12th

Course Code: 5891, 3638, 3721

**Business Communications**

*Business Communications* is a course that prepares students for oral and electronic business communications in the 21st century including social media as well as developing skills in electronic publishing, design, layout, composition, and video conferencing. Emphasis will be placed on social media, design and digital communications. Students will review and practice successful styles and methods for professional business communications using the proper tools to deliver effective publications and presentations. Standards in this course are aligned with the Tennessee Common Core State Standards in English Language Arts and Literacy in Technical Subjects.*

Recommended Prerequisites: None

Recommended Credits: 1

Recommended Grade Levels: 10th, 11th, or 12th

Course Code: 5888
**Administrative Management**

This capstone course provides advanced training, including hands-on experiences, for students pursuing a career in business management & administration. Skills developed in previous courses will be incorporated and enhanced through a multi-tasking environment using a variety of input technologies. Procedures and concepts are related to information processing systems, administrative/information management, problem solving, reasoning, team-building, time management, business standards, feasibility studies, cost/budgeting, professional leadership, ethical and legal issues, ethical and legal issues, mathematics, and communications. Production and administrative skills are developed to meet industry standards.

The student will play a variety of roles in completing tasks. Team activities will be evaluated as a group. Collaboration with other courses can enhance student’ learning and expand their experiences. This course may articulate to a post-secondary program. *(A computerized workstation with dedicated office suite, voice technology, and page layout software and Internet connectivity is necessary for each student.)*

Recommended Prerequisites: Computer Applications (5891, 368, 3721)

Recommended Credits: 1 or 2

Recommended Grade Levels: 11th or 12th

Course Code: 5893

---

The following course is scheduled to be added to the Business Technology Course Offerings within the next three years to complete our Program of Study.

**Advanced Computer Applications**

This is a capstone course in which students will learn necessary skills in problem solving using current and emerging integrated technology to include a variety of input technologies in the production of professional quality business documents and presentations. The course focuses on student choice, accountability, and performance. Students increase their employability by working toward the attainment of high-level skills in the areas of integrated software applications, communication skills, ethical issues, human relations, leadership, self-management, and workplace management. Students may choose areas of specialization and achieve industry certification in areas such as word processing, spreadsheet applications, multimedia presentations, schedule and contact management, etc. This course may articulate to post-secondary education.

Recommended Prerequisite: Computer Applications (5891, 3638, 3721)

Recommended Credit: 1 or 2*

Recommended Grade Levels: 10th – 12th

Course Codes: 5904
Health Science:

**Program of Study: Therapeutic Nursing Services**

**Health Science Education**

*Health Science Education* is an introductory course designed to prepare students to pursue careers in the fields of biotechnology research, therapeutics, health informatics, diagnostics, and support services. Upon completion of this course, a student proficient in *Health Science Education* will be able to identify careers in these fields, compare and contrast the features of healthcare systems, explain the legal and ethical ramifications of the healthcare setting, and begin to perform foundational healthcare skills. This course will serve as a strong foundation for all of the Health Science programs of study. Standards in this course are aligned with Tennessee Common Core State Standards in English Language Arts & Literacy in Technical Subjects.*

Recommended Prerequisites: None

Recommended Credits: 1

Recommended Grade Levels: 9th

Course Code: 5998

**Medical Therapeutics**

*Medical Therapeutics* is an applied course designed to prepare students to pursue careers in therapeutic services. Upon completion of this course, a proficient student will be able to identify careers in therapeutics services; assess, monitor, evaluate, and report patient/client health status; and identify the purpose and components of treatments. The student will incorporate communication, goal setting, and information collection skills to be successful in the workplace. Standards in this course are aligned with Tennessee Common Core State Standards for English Language Arts & Literacy in Technical Subjects, Partnership for 21st Century Skills Framework for 21st Century Learning, as well as Tennessee Anatomy and Physiology standards.*

Recommended Prerequisites: Health Science Education (5998)

Recommended Credits: 1

Recommended Grade Levels: 10th and 11th

Course Code: 5999
**Anatomy and Physiology**

Health Science Education Anatomy and Physiology is a course in which students will examine human anatomy and physical functions. They will analyze descriptive results of abnormal physiology and evaluate clinical consequences. A workable knowledge of medical terminology will be demonstrated.

*It is strongly recommended that administration and guidance follow the scope and sequence and course recommendations as listed.*

Recommended Credits: 1

Recommended Grade Levels: 11th or 12th

---

**Nursing Education**

Nursing Education consists of 18 units of study dealing with direct bedside nursing care. Clinical experience will consist of supervised practice in the nursing home, as well as demonstrations in the classroom. Students can be registered by Tennessee Department of Health-after the completion of the course, 100 hours clinical and theory, passing a state test (both written and skills)-and will be job ready. Students may complete a clinical internship following this course. Jobs include registered nurse, clinical nurse specialist, nurse practitioner, nurse midwife, nurse anesthetist, forensic nurse, and other occupations.

*It is strongly recommended that administration and guidance follow the scope and sequence and course recommendations as listed.*

Recommended Credits: 1

Recommended Grade Levels: 11th or 12th