

The University of Georgia

Program of Technological Studies

What is technology education?

Technology Education is the subject area where students learn:

- technological literacy – what technology is, how technology works, and how it is applied to benefit mankind
- engineering design processes – how engineers plan, organize, and solve technological problems
- mental processes of the technologist – how practitioners in technological occupations approach the process of solving problems
- cultural and societal implications of technology – how technology has influenced our culture and society

At the University of Georgia, students majoring in Technology Education are preparing to become teachers of Technology Education within grades K-12, with primary emphasis on the upper grades.

What will you learn in technology education?

Technology Education is comprised of several major content areas that incorporate the broad spectrum of how technology is being used to solve problems within society. Content areas include the history and nature of technology, engineering design, developing and producing products and systems, using and managing technology, and assessing the impact and consequences of technology.

Along with these conceptual areas, students will learn about physical technology, chemical and biological technology, informational technology, and the strategies engineers use to solve problems as well as the various means and methods of teaching about technology.

The following are areas of learning you will experience in Technology Education courses:

- how materials are processed and converted to usable objects
- the use of computers in industry and design
- how mechanical, electrical, fluid/pneumatic, and thermal systems work together
- how graphics are created and materials are printed
- how engineers design products
- how technology is impacting on societies
- how products are manufactured
- how an industrial company operates
- what power and energy sources are and how to conserve energy
- what materials are available for use in the manufacturing industry
- the processes used in construction
- how to problem solve using mental methods of inquiry used by technologists
- instructional strategies used to teach technology education
- history, philosophy, and trends of the technology education profession

- technological careers available in business and industry

What will you do in class?

Class and laboratory work incorporates a variety of instructional strategies which encourage a hands-on/minds-on approach to learning.

Laboratory experiences will involve:

- researching and designing engineering based solutions to technological problems
- operation of tools and equipment in the various technical content areas
- development of plans for manufacturing products
- developing graphics and technical drawings
- experimenting with electrical circuits and devices
- experimentation with various types of power sources
- controlling of technical systems through mechanical, electrical, fluid/pneumatic, and thermal components

Various technical processes will be performed on a wide range of materials: metals, plastics, ceramics, wood, and composites. You will be involved in individual activities, as well as some group activities during the process of your course work. Problem solving activities will be incorporated throughout the various courses.

What career options will be open to you?

Technology Education at the University of Georgia prepares you to be a certified teacher of Technology Education in public schools. Currently, there is a high demand for qualified technology teachers throughout the entire United States and numerous teaching positions are available in Georgia. UGA is well known for its outstanding graduates in Technology Education and in many other fields as well.

In addition to teacher qualifications, graduates of the Technology Education Program are held in high regard by business and industry. With the broad technical background that students receive in Technology Education, some students also find employment as managers, trainers, or in other key positions in business and industry.

Technology Coordinator positions are new opportunities some technology teachers are pursuing. Recent initiatives within schools to acquire high-tech equipment for use in classroom instruction have created a tremendous need for technical expertise in the use of state-of-the-art learning technology. Certified technology teachers are knowledgeable in the use of this type of equipment and may find this career avenue to be intriguing, challenging and valuable.

What courses do students in technology education take?

EOCS 2450 Practicum in Occupational Studies I - 2 hrs.

Initial supervised field experiences related to teaching individuals in programs of occupational education. Familiarization with all facets of school operations including observation of teachers, trainers, counselors, librarians, supervisors, principals and students.

EOCS 3010 Introduction to Occupational Studies - 3 hrs.

Introduction to teaching in an occupational studies discipline with emphasis on programs which prepare individuals for the workforce. Review of historical and philosophic foundations, adaptation to change, and controlling the future of technological growth.

EOCS 3450 Practicum in Occupational Studies II - 2 hrs.

Supervised field experience related to teaching individuals in programs of occupational education. Observations will be conducted at elementary, middle, high schools and training facilities.

EBUS 4020 / 6020 Computer Concepts and Operating Systems - 3 hrs. *

Computer hardware and software; fundamental operating procedures; data organization and representation; current trends in occupational uses of computer technology. Emphasis on Instructional approaches for teaching microcomputer operating systems in occupational studies. Includes MS-DOS, Windows, and Macintosh.

ETES 5010 / 7010 Technology and Society - 3 hrs. *

Impacts of technology on our society and culture as well as futures related to technology, including the investigation of positive and negative aspects of various types of technology.

ETES 5020 / 7020 Communication Systems - 3 hrs. *

Concepts and technology to inform and persuade as applied in the solution of communication problems in business and industry. Special emphasis is placed on microcomputer design, continuous tone photography, computer-based instruction, and electronic presentation systems.

ETES 5025 / 7025 Technical Design Graphics – 3 hrs. *

Conventional and computer assisted drawing and design software practices for graphic representation of three-dimensional shape and size. Emphasis on instructional approaches for teaching graphic communication in occupational studies.

ETES 5030 / 7030 Manufacturing Systems - 3 hrs. *

Manufacturing through design, planning, and development of a manufactured product employing activities that center on materials processing. The free enterprise approach is studied as a mechanism for producing a manufactured product.

ETES 5040 / 7040 Construction Systems – 3 hrs. *

Construction practices used to produce structures in residential and commercial buildings. Special emphasis placed on laboratory based techniques employing safe use of tools, equipment, and materials.

ETES 5060 / 7060 Energy Systems - 3 hrs. *

Energy systems, including their present and future applications, as well as advantages and disadvantages of the technical, economic, and environmental aspects of each system. Alternative energy systems will be addressed: wind, water, solar, photovoltaic, energy conservation and bio-fuels will be the primary focus. Laboratory modules include: electrical production systems, internal combustion power plants, and appropriate technology in power production.

ETES 5090 / 7090 Principles of Technology - 3 hrs. *

Technological literacy acquired through applied physics concepts and laws, special emphasis placed on teaching technical principles, combined with practical illustration.

ETES 5070 / 7070 Research and Experimentation in Technological Studies - 3 hrs. *

Studies undertaken by individual students and/or small groups of students to pursue new knowledge or to solve a technological problem. Experiences would range from research, experimentation, design and development of prototypes or working models.

ETES 5100 / 7100 Appropriate Technological Development – 3 hrs. *

Research and development of self-help technologies used to sustain appropriate levels of technological growth. Field projects, programs, and consultancies testing and demonstrating applications of relevant and efficient technological solutions to problems.

ETES 5110 / 7110 Applications of Engineering in Technological Studies – 3 hrs. *

Systematic approach to solving technological problems using engineering design processes. Establishment of engineering design principles to guide, collect data, and evaluate the design process. Focus on creativity, resourcefulness, and the ability to visualize and think abstractly.

Elective Courses

EOCS 4000 / 6000 Directed Readings in Occupational Studies - 1-6 hrs. *

Individual research in an occupational studies discipline under the direction of a faculty member.

EOCS 4010 Student Assessment in Programs of Occupational Studies - 2 hrs.

Planning and implementing traditional and authentic assessment strategies, methods, and techniques to assess student learning and development in programs of occupational studies.

EOCS 4100 Principles and Practices of Career Education - 3 hrs.

Role of career education in elementary, middle, and secondary school; major theories of career development; use of standardized assessment, career information resources, and curriculum materials; special issues and trends influencing work and careers.

EDIT 4170 / 6170 Instructional Design - 3 hrs. *

Application of systematic procedures for designing, developing, and evaluating and revising instruction to meet identified goals and objectives.

EDIT 4500 / 6500 Educational Television Production - 3 hrs. *

Design and production of instructional videotapes. Emphasis is on portable television equipment suitable for school or small business applications. Includes laboratory practice with multi-camera production techniques and electronic editing.

EBUS 5060 / 7060 Desktop Publishing in Occupational Studies – 3 hrs. *
Integration of applications for electronic publishing. Elements of page design, development of effective publications, presentations, and instructional activities involving desktop publishing knowledge, skill, and application.

ETES 5140 / 7140 Laboratory Planning, Management, and Safety – 3 hrs. *
Planning and managing laboratories including the development of a safety program and selection of equipment, tools, and supplies.

* *Split -Level Course - Can be taken for graduate credit*

Specific graduate level courses in technology education?

ETES 7080 Critical Issues in Technological Studies - 3 hrs.
Identify and research current problems and issues, assess contemporary trends, determine appropriate strategies for initiating change, and develop material needed to implement changes in Technology Education.

ETES 7650 Applied Project in Technological Studies – 3 hrs.
Topic or problem in technological studies significantly related to the student’s professional responsibility.

There is an extensive listing of additional graduate courses that may be utilized for graduate studies in technology education located in the *University of Georgia Graduate Bulletin*.

What does a typical program of study look like?

To review specific programs of study for the degrees in technology education visit the UGA-Technology Education website at www.uga.edu/teched. Degree checksheets outline all the courses required in a degree program. These are intended as a guide and sometimes actual courses taken vary depending on a student’s prior study and experience.

Programs of study include all levels of preparation in the field. Bachelor’s degrees prepare students to be teachers in schools and graduate degrees provide further levels of expertise. The education specialist and doctoral programs provide advanced degrees with the later preparing students to seek employment at the college or university level.

For additional information contact:

Dr. Robert C. Wicklein
University of Georgia
Program of Workforce Education
223 Rivers Crossing Building
850 College Station Road
Athens, GA 30602
(706) 542-4503
wickonc@uga.edu