

Technology Education Program

Rhode Island College
Feinstein School of Education and Human Development
Department of Educational Studies
Spring 2010



Course Syllabus

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Communication Devices: Out of courtesy for other students and the instructor, please silence and place out of sight all communication devices (cell phones and pagers, etc.) during class time so that we may learn and work together without distraction.

I COURSE TITLE: TECH 300-01 Orientation to Technology Education (4 Credits)

CLASS HOURS: Wednesday 9:00 - 11:50

CLASS ROOM: Whipple Hall 103

II PREREQUISITES: TECH 200, TECH 202, TECH 204, TECH 205 *12 credits of TECH must be completed with a minimum 2.75 GPA.* *Cumulative GPA 2.5 required.*

III CATALOG DESCRIPTION: The field of technology education and its historic role in education are introduced. Past and contemporary trends, technological literacy standards, program and curriculum development, and appropriate professional traits are studied.

Relationship to Feinstein School and Professional Development

Orientation to Technology Education (TECH 300) serves as an introduction to Technology Education as a viable option in the teaching profession. Teacher candidates study the history and evolution of the field of Technology Education. They are introduced to planning, methods, development of content and curriculum, and teaching skills necessary to become a successful teacher in Technology Education. Students have ample opportunity to plan, act, and reflect, as advocated by the PAR model during this course. They will make four classroom observations with emphasis on the application of exemplary teaching skills, developing appropriate content, creating an exemplary learning environment, development of appropriate inclusion strategies, student understanding of content, and evaluation of student work.

Students will reflect on, analyze, select, and implement new and contemporary methods, activities, and curricula related to the Technology Education classroom. Participants will overtly identify and use technological literacy initiatives (ITEA). Students will be prepared to enter the professional sequence in Technology Education through curriculum/content analysis, a series of lesson planning activities, and micro-teaching lessons experiences; guided by the *Rhode Island Beginning Teacher Standards* and the *Standards for Technological Literacy*.

Participants in this course should benefit from consistent best practice scenarios and the intentional use of technology Education teaching models that explore global attitudes and diverse student populations in the technology education classroom. This Technology Education teacher preparation course is grounded in FSHED's Conceptual Framework and the PAR Model embraced by Rhode Island College.



IV TEXT: (Required)

ITEA (2000). *Standards for Technological Literacy: Content for the Study of Technology*. Reston, VA: ITEA.

<http://www.iteaconnect.org/TAA/PDFs/xstnd.pdf>

National Academy of Engineering & National Research Council. (2002). *Technically Speaking: Why All Americans Need to Know More About Technology*. Washington, DC. Author.

http://books.nap.edu/openbook.php?record_id=10250&page=R1



Suggested Resources:

These items are available at: <http://www.iteaconnect.org/Publications/productguide.pdf>

- Teaching Technology - High School: Strategies for Standards-based Instruction
- Teaching Technology – Middle School: Strategies for Standards-based Instruction
- Exploring Technology(Second Edition): A Standards-Based Middle School Model Course Guide
- Bringing Technology Education Into K-8 Classrooms: A Guide to Curricular Resources About the Designed World
- Planning Learning: Developing Technology Curricula

Selected Bibliography

Brusic, S., Fales, J., & Kuetemeyer, V. (2004). *Technology: Today & Tomorrow*. Peoria, IL: Glencoe/McGraw-Hill. ISBN: 0-07-830829-1.

Martin, G.E. (1995). *Foundations of Technology Education*. 44th Yearbook of the Council on Technology Teacher Education. Peoria, IL: Glencoe Division Macmillan/McGraw-Hill Publishing Co. ISBN: 0-02-677149-7.

Ritz, J., Dugger, W., & Israel, E. (2002). *Standards for Technological Literacy. The Role of Teacher Education*. 51st Yearbook of the Council on Technology Teacher Education. Peoria, IL: Glencoe Division Macmillan/McGraw-Hill Publishing Co. ISBN:0-07-829104.

Internet Resources



Technology Education resources: <http://www.iteaconnect.org>

Standards for Technological Literacy (STL) On-Line:
<http://www.iteaconnect.org/TAA/PDFs/xstnd.pdf>

Conn. Technology Education Standards:

<http://www.sde.ct.gov/sde/lib/sde/PDF/DEPS/Career/TechEd/Frtech.pdf>

Mass. Frameworks for Science, Technology & Engineering:

<http://www.doe.mass.edu/frameworks/scitech/1006.pdf>

New Hampshire Technology Education Curriculum Guide

http://www.ed.state.nh.us/education/doe/organization/curriculum/CurriculumFrameworks/documents/NH-Tech_GuidePDF08.pdf

Lesson plans, teaching resources & education: <http://www.teachnet.com>

V COURSE OBJECTIVES:

Upon satisfactorily completing this course, the student will be able to:

1. describe the role of Technology Education in education;
2. compare and contrast Technology Education & Career and Technical Education
3. discuss the teaching and learning process;
4. use the Standards for Technological Literacy;
5. describe the Rhode Island Professional Teachers Standards;
6. interpret the evolution of Technology Education from object lessons to contemporary practice;
7. identify the clusters which define Technology Education curriculum;
8. use contemporary technology education resources to create micro-lessons;
9. identify stages of lessons;
10. describe successful teaching strategies resulting from class visits;
11. plan and execute a short technology lesson;
12. demonstrate a technology learning activity (TLA)
13. consider teaching Technology Education as a career choice.

VI CONTENT OUTLINE

- | | |
|--|---|
| I. Orientation to TE | 6. Technology Education |
| A. Course Introduction | D. Historical Leaders in T.E. |
| 1. Schedules | 1. 1800s - 1910s |
| 2. Observation Visits | 2. 1910s - 1930s |
| a. The Ground Rules | 3. 1930s - 1940s |
| b. Conduct | 4. 1940s - 1960s |
| 3. Technology Education Defined | 5. 1960s - 1970s |
| 4. Teaching Technology Education | 6. 1970s - 1990s |
| a. Guiding principles | 7. 2000 - present |
| b. Content areas | E. The Technology Education Profession |
| c. Lesson planning | 1. International/National Organizations |
| d. Activities | a. ITEA |
| 5. TE & Career and Technical Education | b. CTTE |
| a. Confusion | c. DATA |
| b. General Education | 2. Local Organizations |
| c. Vocational Education | a. RITEA |
| B. Education in a Democracy | b. TECA |
| 1. Purpose of education | c. TSA |
| 2. Knowledge | F. Technology Education Programs |
| 3. Lifelong learning | 1. Elementary |
| 4. Utility/Value | 2. Middle School |
| 5. Socialization | 3. High School |
| C. The Purpose of Technology Education | G. Technology Teacher Education |
| 1. Historical perspectives | 1. Undergraduate training |
| 2. Manual Arts | 2. Graduate Opportunities |
| 3. Manual Training | a. Masters |
| 4. Industrial Arts | b. EdD |
| 5. Industrial Training | c. PhD |

- II. TE Curriculum Projects
 - A. Early Developments
 - B. Contemporary Ventures
 - 1. Jackson's Mill Project
 - 2. Conceptual Framework for Technology Education
 - 3. Technology for All Americans
 - 4. Standards for Technological Literacy
- III. Curriculum Building
 - A. Content Areas
 - 1. Communication
 - 2. Construction
 - 3. Manufacturing
 - 4. Transportation/Energy
 - 5. Biotechnology
 - B. Standards Alignment
 - 1. STL
 - a. Age appropriate selections
 - b. Using Benchmarks
 - 2. Holistic development
 - a. Environment
 - b. Society
- IV. Planning Lessons for TE
 - A. Teaching and Learning in the Technology Education Laboratory/Classroom
 - 1. The role of the teacher
 - a. Lesson planning
 - b. Activities
 - c. Evaluation
 - 2. The role of the learner
 - a. Wants & needs
 - b. Preparedness to learn
 - c. Emotional and psychological factors
 - d. Peer pressure
 - B. Approaches to Teaching & Learning
 - 1. Presentation
 - 2. Direct Instruction
 - 3. Concept Teaching
 - 4. Cooperative Learning

- C. Activity-based
 - 1. Demonstration
 - 2. Design Activities
 - 3. Games
 - 4. Learning Modules
 - 5. Problem Solving
- V. Instructional support and techniques
 - A. Presentation (chalkboard, dry erase, overhead transparencies, computer presentation, etc.)
 - B. Handouts (instruction sheets, design briefs, etc.)
 - C. Manipulatives
 - D. Supporting Learning
 - 1. AV & IT Equipment
 - 2. Materials (construction supplies)
 - 3. Instructional technology and support materials
 - 4. Computer assisted instruction
- VI. Implementing instruction
 - A. Teacher characteristics
 - B. Presentation techniques
 - C. Using educational technology
 - D. Questioning techniques
 - E. Observation techniques
 - F. Motivational techniques
 - G. Recording techniques
 - H. Student performance evaluation techniques
 - I. Self-evaluation techniques
- VII. Survival Skills
 - A. Finding and getting an appropriate job
 - B. Adapting to the job
 - 1. Keeping the job
 - C. Image projection
 - 1. "Image is Everything"
 - D. Organizational skills
 - 1. Time management
 - E. Interpersonal skills
 - F. Stress management
 - G. Paperwork, meetings, and duties

VII STANDARDS ACHIEVED

RIBTS:

<i>Standard</i>	<i>Activity</i>
STANDARD 2: Teachers create learning experiences that reflect an understanding of the central concepts, structures, and tools of inquiry of the disciplines they teach.	<i>Use of Standards for Technological Literacy in lesson planning and content outlines</i>
STANDARD 3: Teachers create instructional opportunities that reflect an understanding of how children learn and develop.	<i>Development of Age appropriate activities and lessons; Visits to middle school and high school programs</i>

STANDARD 5: Teachers create instructional opportunities to encourage students' development of critical thinking, problem solving, and performance skills.	<i>Model class activities, creating content outlines, Micro-lessons & age appropriate technology activities.</i>
STANDARD 6: Teachers create a learning environment that encourages appropriate standards of behavior, positive social interaction, active engagement in learning, and self-motivation	<i>Visitations to Public School Programs; 6 Observation Reports</i>
STANDARD 9: Teachers use a variety of formal and informal assessment strategies to support the continuous development of the learner.	<i>Lesson and Activity assessment strategies; Lesson presentations</i>
STANDARD 10: Teachers reflect on their practice and assume responsibility for their own professional development by actively seeking opportunities to learn and grow as professionals.	<i>Participation in professional groups: ITEA & RITEA, Developing Feinstein Admissions Portfolio;</i>

STL:

The Nature of Technology

Standard 1: Students will develop an understanding of the characteristics and scope of technology.

Standard 2: Students will develop an understanding of the core concepts of technology.

Standard 3: Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.

Technology and Society

Standard 6: Students will develop an understanding of the role of society in the development and use of technology.

Standard 7: Students will develop an understanding of the influence of technology on history.

Design

Standard 10: Students will develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.

VIII CLASS ATTENDANCE POLICY:

TECH 300 Orientation students are expected to exhibit a *high degree* of professionalism reflected in their speech, manner, and dress. Prompt and consistent attendance is an essential dimension of professional behavior. Pre-service teaching candidates will attend all class meetings and all scheduled observations in the public schools. The nature of this class requires your complete cooperation in meeting deadlines and your classroom obligations.

FAILURE TO COMPLY WITH THESE SIMPLE REQUESTS WILL AUTOMATICALLY REMOVE YOU FROM ANY CHANCE OF MOVING FORWARD INTO THE TEACHING PROGRAM.

Students should attend all class meetings and are responsible for all class work and assignments. At the beginning of each semester, instructors will distribute a syllabus, which may include attendance and/or class participation as a component of the course grade. Students who are absent must take the initiative to determine from the instructor what course work can be made up. Students who are absent on the day of an examination should make every effort to call the instructor (or department office) before the scheduled test.

....All students who incur or anticipate an extended absence (five or more consecutive days or more) should call the Office of Student Life at 456 - 8061, so that notice (not an excuse) may be sent to instructors. (p. 38 RIC Student Handbook)

- *The policy of this class is that after the 3rd absence the final grade will be dropped one letter grade.*
- *Three (3) unexcused absences from this class will result in a final grade of (F).*
- *Unexcused absences and lateness to your required school visits WILL be dealt with harshly. You will be dropped from this class if you are late or miss your visit appointment.*
- *Absences are considered excused **only** when the student supplies official documentation of the nature of the absence. (i.e. attending physician's notice, court documents, obituaries, field trip memo)*
- *All exams and quizzes will be taken at the scheduled time. Make-up exams and quizzes may not be provided unless proper documentation is presented.*

IX FIELD EXPERIENCES & LABORATORY EXPERIENCES AND HOURS:

During the first week of class, schedules will be developed for your class visits. The Orientation class requires six visitations to schools in the area. You will make eight (6) observations; (3 in middle schools & 3 in high schools) in a Technology Education classroom/laboratory on the assigned date and time. Each class member will be assigned a school and a time for visitation at the convenience of the cooperating teacher. It is crucial that you keep those schedules during the course of the semester. Deviation from the schedule can cause unwanted disruption in the classes you visit during the semester.

Class time is reserved for providing instruction, reflection, and collaborating on class projects, and portfolio development. Come prepared to talk about what you experienced while visiting different classrooms around this state.

A unique opportunity has also been given to the program. Beginning in February, we will visit students at Hope High School to develop a Robotics program. Each class member WILL participate in at least two classes.

X NECESSARY MATERIALS:



Please come equipped with a writing implement and note pad during class sessions. You will be making observations throughout the course of this class.

Bring your textbooks to class for all sessions.

You must have a journal for your observations.

Come prepared with essential handouts and forms as required by the instructor

A notebook of some type will be used to archive all course materials

An appropriate portfolio for your work is required.

If you don't have an e-mail address, get one ASAP. A number of assignments and class communications will be delivered via e-mail.

Please be certain that you have access to the Internet; several assignments will require the use of WWW resources.

XI METHODS OF INSTRUCTION:

Instructional strategies to reinforce content will include:

- Lecture
- Individual reports
- Individual projects
- Laboratory demonstrations
- Group interaction/Seminar
- Discussion / Question and Answer

XII EVALUATION:

TECH 300 Orientation to Technology Education
Final Grades

Personal Inventory/Teaching Traits	10%
Historical Technology Education People/Events	10%
Micro-teaching Lesson	10%
6 Class Observations	30%
Concept Mapping	10%
FSHED Admissions Portfolio	10%
Content Outline for Clusters project	10%
Class projects/participation	10%
	100%

Grade Scale:

A	100% - 96%	C+	79% - 76%
A-	94% - 90%	C	75% - 71%
B +	89% - 86%	C-	70%
B	85% - 81%	D	69% - 60%
B-	80	F	59% or less

XIII RECOMMENDATION TO CONTINUE IN THE PROFESSIONAL SEQUENCE

Your evaluation in this course is based on your observed potential to teach, quality of work, attitude, and professional demeanor. If these elements are satisfactory, you will be recommended to advance to the Methods in Technology Education TECH 406. You must pass this class with a B or better.

*A passing grade of B and a positive recommendation from the Orientation instructor is required to advance to TECH 406 Methods in Technology Education***.*

**** Remember, to be accepted into the Practicum class, your Admission Portfolio must be approved by the Feinstein School. At the time of approval, it is best to meet with your advisor to be sure all prerequisites are met.*

TENTATIVE COURSE SCHEDULE
TECH 300 ORIENTATION TO TECHNOLOGY EDUCATION

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Text code: (STL) Standards for Technological Literacy
 (TS) Technically Speaking

Dates	Topic	Readings/Assignments
Week 1 Wednesday Jan. 27	Introduction to the course Syllabus/Goals/Expectations Course Overview RIBTS & STL Schedules <i>Feinstein Handouts</i> Technology Education Overview Technology Education and General Education Technology Education & Career and Technical Education	STL Chapter 1 - 2 pp. 1 - 20 STL pp.208 -210
Week 2 Wednesday February 3	Purpose of Education Historical Perspectives of TE Leaders in the Field Evolution of Technology Education Professionalism & organizations	STL Chapter 3 pp. 21 - 54 TS pp. 1 - 11 Traits Sheets Due Feb 10th
Week 3 Wednesday Feb. 10th	Philosophy of Education Learning to Teach Standards for Technological Literacy Characteristics of Effective Teachers What Teachers Do!	STL Chapter 4 pp. 55 - 88 <i>Feb 17th Observation 1 Due</i>
Week 4 Wednesday Feb. 17	TE Curriculum Movements TE Content areas/Aligning Standards with Activity Planning to teach	STL Chapter 5 pp. 89 - 112 TS pp. 11 - 24

<p>Week 5 Wednesday Feb. 24</p>	<p>Teaching and Learning in the Technology Education classroom/lab</p> <p>Student motivation to learn Approaches to Teaching and learning Learning resources</p> <p>Content Outline Due</p>	<p>STL Chapter 6 pp. 113 - 138</p> <p><i>FEB 24th Observation 2 Due</i></p>
<p>Week 6 Wednesday March 3</p>	<p>Unit planning Unit Goals Lesson Objectives</p> <p>Technology in the Elementary Grades</p>	<p>STL Chapter 7 pp. 139 – 169 TS pp. 25 - 47</p> <p><i>Historical TE Assignment Due March 3rd</i></p>
<p>Week 7 Wednesday March 10</p>	<p>Lesson Planning Technology Learning Activities (TLA)</p> <p>Technology in The Middle School</p>	<p>STL Chapter 7 pp. 169 - 198</p> <p><i>March 10th Observation 3 Due</i></p> <p>Concept Mapping Due March 5th</p>
<p>Week 8 Wednesday March 17</p>	<p>Spring Break March 14 - 21</p>	
<p>Week 9 Wednesday March 24</p>	<p>Approaches to Teaching and Learning</p> <p>Technology in the High School</p>	<p>STL Chapter 8 pp. 199 - 207 TS pp. 47 - 77</p> <p><i>March 24th Observation 4 Due</i></p>
<p>Week 10 Wednesday March 31</p>	<p>Technology Education Resources</p> <p>Modular Learning Systems</p>	<p>ITEA handouts Resource guides TS pp. 77 - 103</p> <p><i>Content Outline due March 31st</i></p>
<p>Week 11 Monday March 31</p>	<p>Lesson planning review</p>	<p><i>March 31st Observation 5 Due</i></p> <p>TS pp. 103 - 114</p>

Week 12 Wednesday April 7	Class Management Managing the Lab Management Plans	<i>FEINSTEIN ADMISSIONS</i> <i>PORTFOLIO DUE</i>
Week 13 Wednesday April 14	School Administration and Hierarchy Course outlines	<i>April 16th Observation 6 Due</i> Micro-Lessons Due Group 1 & 2 Present
Week 14 Wednesday April 21	Evaluation and Assessing student work	Micro-Lesson Group 3 & 4 Present
Week 15 Wednesday April 28	Portfolio Construction Remaining Active in the Profession	ITEA handouts
Wednesday May 5th	Content Portfolio Due	