Course Description

This course is an introduction to the materials and processes used in 6-12 Technology Education Classrooms to create units of instruction. Laboratory projects will focus on current standards of technological literacy that include: bio-related, construction, electronics, information, manufacturing, and transportation technologies. This course should be taken the same semester as EIA1049 (Intro to Teaching Tech Ed) (Freshman standing).

Purpose of the Course

To expose students to the nature of Technology Education in the 6-12 classrooms, state and national standards, theory and practice and content knowledge. Additionally, Students will begin to explore the fundamentals of engineering processes and design methods. Finally, laboratory safety will be stressed.
The Conceptual Framework in the Professional Education Unit (PEU) at Florida A&M University is an integrated approach to providing educational experiences that result in exemplary professional educators. The Framework is comprised of six themes with the mission of developing high quality classroom teachers, administrators and support personnel. The term “exemplary” refers to the kind of graduates the PEU strives to produce. The figure below provides a diagram of the Exemplary Professional Conceptual Framework.

**TECHNOLOGY**

• CF 2
  • Through this focal area, the FAMU professional education candidate will:

| CF: 2.1 (S) | Use of available technology and software to support student learning. | F: 4,12 | I: 6 |
| CF: 2.3 (K) | Know fundamental concepts in technology. | F: 12 | I: 1,6 |

**CRITICAL THINKING**

• CF 4
  • Through this focal area, the FAMU professional education candidate will:

| CF: 4.1 (K) | Understand a variety of instructional/professional strategies to encourage student development of critical thinking and performance. | F:4,7 | I: 4 |
| CF: 4.2 (S) | Use a variety of instructional/professional strategies to encourage students’ development of critical thinking and performance. | F:2,7 | I: 4 |
| CF: 4.3 (D) | Value critical thinking and self-directed learning as habits of mind. | F: 4 | I: 1,4 |

**PROFESSIONALISM**

• CF 5
  • Through this focal area, the FAMU professional education candidate will:

| CF: 5.3 (D) | Demonstrate commitment to professional growth & development. | F:3,7 | I: 9 |
| CF: 5.4 (K,S) | Use major concepts, principles, theories & research related to the development of children and adults. | F: 7 | I: 2 |
| CF: 5.5 (S) | Construct learning opportunities that support student development & acquisition of knowledge & motivation. | F: 7 | I: 5 |
URBAN/RURAL EDUCATION

•CF6
•Through this focal area, the FAMU professional education candidate will:

| CF: 6.2 (S,D) | Be able to work in school settings that focus on rural/urban context with opportunities and challenges that these environments provide. | F: 11 | I: 3 |

**Academic Learning Compact**

This course falls under the courses offered in the Department of Workforce Education and Development and is thus covered by the associated Academic Learning Compacts (ALCs). ALCs answer three basic questions: What will students learn by the end of their academic programs? Have they learned what they have been taught by their professors? How do we measure these quantities? For details regarding the Department of Workforce Education and Development, ALCs, go to: http://www.famu.edu/assessment and click on Academic Learning Compacts.

**Overall Goals of the Course**

The overall goal of this course is to prepare candidates to become creative problem solvers and reflective practitioners within the content area of Technology Education provided within the course.
### Specific Behavioral Objectives

Matrix for Alignment with Standards and the 
The Florida Agricultural and Mechanical University 
College of Education Conceptual Framework

Standards with which the course objectives are aligned:
- The Florida Agricultural and Mechanical University College of Education and Human Services Conceptual Framework (FAMU CF)
- Florida Educator Accomplished Practices (FEAP)
- Florida Subject Area Competencies (FSAC)
- International Technology Education Association (ITEA)
- Interstate New Teacher Assessment and Support Consortium (INTASC)

<table>
<thead>
<tr>
<th>Objective</th>
<th>NCATE (N)</th>
<th>FSAC (FS)</th>
<th>FAMU CF (CF)</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge/Content</td>
<td>INTASC (I)</td>
<td>ITEA (I)</td>
<td>FEAP (FE)</td>
<td></td>
</tr>
</tbody>
</table>
| 1) Identify importance of materials science in engineering design systems. | 1 | FS: 1.1, 1.2, I: 10, 13 | CF: 4.1, FE: 4, 7 | - Final Project Documentation 
- Design Worksheet |
| 2) Identify efficient designs and materials as they relate to product performance using economic, social, and environmental criteria. | 2 | FS: 1.5, 1.6, I: 6 | CF: 5.4, FE: 3, 7 | - Research Report 
- Discussion Board 1 |
| 3) Understand the properties of materials and how they influence design criteria and decisions. | 1, 6 | FS: 3.1&2, I: 6 | CF: 2.3, FE: 12 | - Materials Science Quiz 1 
- Design Worksheet |
| Skills/Performance | | | | - Standards Based Projects & Design Briefs (5) 
- Standards Based Curricula Worksheet |
| 4) Understand and utilize engineering design processes to design, build and assess standards based products from engineering materials. | 4 | FS: 3, I: 9, 10 | CF: 4.2, FE: 2, 7 | - Research Report 
- Quiz 2 & 3 
- Standards Based Lesson Plan Outline |
| 5) Evaluate and explain the significance and impact of local, state, and national academic standards for Technology Education. | 2 | FS: 12, I: 3 | CF: 5.4, FE: 7 | - Discussion Board 2 
- Quiz 2 &3 |
| 6) Integrate and use STEM principles as they apply to material selection and standards based product engineering, use, and assessment. | 5 | FS: 12.6, &7, I: 3 | CF: 5.5, FE: 7 | - Lab Projects (5) and Related Documentation of Projects 
- Final Project Portfolio |
| Dispositions/Professionalism | | | | - Standards Based Lesson Plan outline 
- Quiz 3 &4 
- Lab Project Documentation |
| 7) Implement standards based knowledge and skills to produce 6-12 lab activities in future Technology Education Classrooms. | 1, 3, 4 | FS: 12.7, I: 6 | CF: 4.3, 6.2, FE: 4,11 | - Class Presentation 
- Research Report |
| 8) Produce documentation (design processes, lesson plans, etc.) that is aligned with current state and national technology standards. | 9 | FS: 12.4, I: 6 | CF: 5.3, FE: 3.7 | - Safety Quiz 
- Instructor Observation |
| 9) Identify and explain the benefits, issues and opportunities related to teaching using "hands-on" standards based methods in Technology Education. | 9 | FS: 12.5, 14.2, I: 1, 2 | CF: 5.3, FE: 3.7 | - TaskStream Artifact Submission |
| 10) Develop safety habits and laboratory management techniques. | 9 | FS: 11, I: 1 | CF: 5.3, FE: 3, 7 | - TaskStream Artifact Submission |
| 11) Continue to develop a professional portfolio | 6, 9 | FS: 14.5 & 6, I: 4 | CF: 2.1, 5.3, FE: 3, 4, 7, 12 | - TaskStream Artifact Submission |
1. Basic Concepts – Standards Based Teaching and Learning
   A. History of Technology Education Curricula
   B. Contemporary Standards Based Curricula
      i. The I³ Project - Invention, Innovation, and Inquiry
      ii. EbD – Engineering By Design
      iii. Project Lead the Way
   C. Technological Assessment
   D. Seven necessary resources for any technological activity
   E. The Engineering Design process
   F. Design, build, use, and assess methodology of learning technology

2. Design Processes
   A. Scientific, Technological, Engineering
   B. Goals
   C. Research
   D. Product prototype design
   E. Selection of Materials
   F. Testing of design ideas
   G. Assessment of product costs and benefits

3. Selection of Materials
   A. Costs and sources of materials
   B. Legal and political environments
   C. Environmental life cycle costs
   D. Issues of recycling, disposal and reuse

4. Technology Education Constructs
   A. Transportation/Energy and Power
   B. Engineering/Drafting/CAD
   C. Communications/Information Systems
   D. Construction
   E. Electronics
   F. Combined Technologies
   G. Integration of Science, Technology, Engineering and Mathematics (STEM) principles.

Teaching Methods
A variety of methods may be employed, including, but not limited to: lecture/discussion, field experience, guest speakers, audiovisual materials, computer applications, demonstrations, presentations and lab activities. This course will have a Blackboard component, and students must read relevant sections in current outside resources, including web-based documents and word-process assignments and have regularly available email, Internet and World Wide Web access. Documentation and artifacts for TaskStream are required.

1. Quizzes
2. Midterm and Final Examinations
3. Homework Assignments via Blackboard
4. Discussion Boards
5. Laboratory Projects
6. Presentations (Individual and Group)
7. Research Reports
8. Lesson Plans
## Methods of Evaluation

**Grading:**
Grades will be determined using a percentage of total points. The grading scale, with minimum percentages for each grade is provided below. This grading scale will be applied to individual and group evaluated activities as well as to the student’s final grade.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>PERCENTAGE/GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes (4) 20 pts each</td>
<td>80</td>
<td>90-100% A</td>
</tr>
<tr>
<td>Worksheet Assignments (2) 10 pts. each</td>
<td>20</td>
<td>80-90% B</td>
</tr>
<tr>
<td>Lab Projects and Documentation (4) 75 pts each</td>
<td>300</td>
<td>70-80% C</td>
</tr>
<tr>
<td>Blackboard Discussion Boards (2) 25 pts. each</td>
<td>50</td>
<td>60-70% D</td>
</tr>
<tr>
<td>Final Project/Portfolio/Presentation</td>
<td>150</td>
<td>Below 59% F</td>
</tr>
<tr>
<td>Research Paper</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Standards Based Lesson Plan</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Midterm</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Final Exam</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1000 pts</td>
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</tr>
</tbody>
</table>

## Course Policies

**Policy Statement on Non-Discrimination** It is the policy of Florida Agricultural and Mechanical University to assure that each member of the University community be permitted to work or attend classes in an environment free from any form of discrimination including race, religion, color, age, disability, sex, marital status, national origin, veteran status and sexual harassment as prohibited by state and federal statutes. This shall include applicants for admission to the University and employment.

**Academic Honor Policy** The University’s Academic Honor Policy is located in the FANG Student Handbook, under the Student Code of Conduct- Regulation 2.012 section, beginning on page 55-56.

**ADA Compliance** To comply with the provisions of the Americans with Disabilities Act (ADA), please advise instructor of accommodations required to insure participation in this course. Documentation of disability is required and should be submitted to the Learning Development and Evaluation Center (LDEC). For additional information please contact the LDEC at (850) 599-3180.

**Dispositions** As a component of student assessment, the College of Education has instituted a system for monitoring the professional dispositions: Professionalism, Effective Communication, Respectful Behavior, Ethical Behavior, and Reflective Behavior. At the end of each semester each instructor will fill out an assessment instrument for each student which will be turned in to the department chair and kept in the student’s file. If a problem arises during the semester, a disposition feedback form may be completed by an instructor or school personnel and turned in to the student’s department chair. The severity of the behavioral deficiency will influence the chairperson’s handling of the situation. (See Assessment Instrument for Dispositions and Disposition Feedback Form for more detailed information. This policy includes provisions for professional dress, attendance, punctuality, use of cell phones, etc.)

## Additional Requirements

1. **Attendance:** Attendance is required for all class meetings. It is the responsibility of the student to make up any work/assignments missed due to illness or personal excuses. The student’s final grade will be reduced one letter grade for each absence beyond two unexcused absences. All excused absences must be reported to and verified through the FAMU College of Education.
2. **Quizzes:** There are four quizzes throughout the semester worth approximately 20 points each. Tentative dates on which quizzes will be given will be posted on the class BlackBoard site. There will be no make-ups for missed quizzes without an acceptable excuse.
3. **Final Exam:** There will be a comprehensive exam at the end of the course. The final will be approximately equal in value to all of the quizzes.
4. **Computer/Web/Email Applications:** A variety of graded activities in this course will be conducted using email, the web and BlackBoard. Students are required to use their FAMU email/Blackboard account and to know how to use file attachment features. Also, students must use Microsoft© Word© for all word-processed files, must be able to use and will prepare a Microsoft© PowerPoint© presentation, and must be able to use an Internet browser. Some web-based
resources will be formatted as PDF files. Students should have access to and know how to use Adobe® Acrobat Reader©. Grades will be posted on BlackBoard. Computer access for students is provided at a number of locations on campus. Students may access their FAMU email from other email accounts or computer systems that are not on the FAMU campus. However, it is the student’s responsibility to make sure the email and other computer systems are operational.

5. **Spelling:** Correct spelling is required for all work. Spelling a word incorrectly on any graded item will result in a loss of one-half point for each time the word is misspelled.

6. **Writing Assignments:** Students will complete several writing assignments. Writing assignments must be word-processed using Microsoft® Word®.

7. **Portfolio:** Students are required to purchase a TaskStream account. Three assigned artifacts must be uploaded to your TaskStream portfolio to pass this class.

8. **Professionalism:** Students are expected to conduct themselves in a professional manner at all time while in class. Evaluation of the student’s professionalism will be an important part of the assessment program in this course.

9. **Reading:** Students are expected to read handouts, web pages, web-based documents, etc. to prepare for lectures, quizzes and tests; as well as prepare for research and writing activities through reference reading.

10. **Research:** Several evaluated activities require the student to conduct research. Under normal conditions, the University library resources will meet all the student’s research needs. Internet research activities will also be conducted.

11. **Safety:** It is the student’s responsibility to adhere to and practice proper safety procedures in the use and operation of the tools, materials, machines, and processes required in this course. Safety eyewear is required when working in any technology labs during course or when participating in hands-on lab experiences. All students must provide and use their own personal safety eyewear. Students will not be permitted to work in any Technology Education laboratory without approved safety eyewear - no exceptions.

12. **Laboratory:** This class has an integrated lecture and lab. Some days may be all lectures or all labs or a combination of both depending on the class progress and activities.

13. **Presentations:** Students will prepare and deliver one presentation. Presentations must be supported by multimedia (typically PowerPoint). Students will also make several informal presentations during class as part of a group or as an individual.

14. **Deadlines:** All evaluated activities must be submitted on the deadlines identified. Ten percent (10%) will be deducted from the student’s grade for each day the activity is submitted late.

15. **Plagiarism and Ethical Behavior:** Students are expected to do their own work and act respectfully to each other and most importantly, the instructor. If student are caught cheating in any way, they may receive a failing grade for the course, dismissal from the program or dismissal from the University.

**Students With Disabilities:**

- Reserve the right to decide when to self-identify and when to request accommodations.
- Will register with the Equal Opportunity Programs Office (EOP) each semester to receive accommodations.
- Will present the EOP Accommodation Approval Notice to faculty when requesting accommodations.
- May be required to communicate with faculty for accommodations that specifically involve the faculty.
- Contact Info: Equal Opportunity Programs Office 676 Ardelia Court Tallahassee, FL 32307 (850) 599-3076/3219

**FAMU Technology Education Student Equity Statement:**

Florida A&M University is committed to the human rights, dignity and social equity of all individuals; therefore, in accordance with University policy, the Technology Education Program will maintain a “no tolerance” policy with regard to behavior associated with: sexual connotations, physical gestures, inappropriate language or graphics on clothing. As potential future teachers, it is the expectation of the Technology Education Faculty that all Technology Education Majors and those who are enrolled in Technology Education classes reflect strong professional integrity and act in a manner worthy of the University and the Technology Education Program. The Technology Education Faculty will address any issues according to the University policy in order to create a safe and comfortable learning environment for all students.

- If a student feels that any misconduct as described above has occurred against them, witnesses, or is told of an incident of perceived misconduct then he/she should report the incident to the Equal Opportunity Programs Office. Reports of any incidents will be held in the strictest of confidence. Contact Info: Equal Opportunity Programs Office 676 Ardelia Court Tallahassee, FL 32307 (850) 599-3076/3219
Laboratory Projects and Assignments

Laboratory Projects
There will be four class laboratory projects throughout the semester, in addition to your final lab project. Each project is designed to provide with the basic technological skills that you will be using throughout your future courses within the Technology Education Program. Furthermore, each project will incorporate a standards based component that will assist you when designing your final project. The projects will be based on current Technology Education activities taught in contemporary classrooms. They include: Reverse Engineering; Transportation, Energy and Power; Communications/Information Systems; and Construction and Structural Design. A worksheet will accompany each project for assessment purposes.

- Laboratory Safety
  Before laboratory projects can commence, you must pass the FAMU Technology Education Program Safety Examination. You will be provided with a copy of the FAMU Technology Education Program Safety Guide in both a hard copy (to be returned) and a digital copy via Blackboard as well as a formal lecture and practical instruction within each Laboratory. You must score at least 98% on the quiz in order to work in the labs.

| Course Objective 1: FAMU CF: 4.1; FEAPS: 4, 7; FSAC: 1.1&2; ITEA: 10, 13; INTASC: 1 |
| Course Objective 10: FAMU CF: 5.3; FEAPS: 3, 7; FSAC: 11; ITEA 1; INASC: 9 |

Assignments

- Discussion Boards:
  You will have two discussion board assignments throughout the semester. Through discussion boards, you will identify and self-reflect with regard to your views and opinions regarding technology education issues such as standards, philosophies, and technology as it relates to different grade levels. Information will be provided related to discussion board topics: however, critical thinking on your part to express your opinions and views are essential. Furthermore you will demonstrate your professional skills by responding to your peer’s discussion board responses. The following topics will be on the discussion boards:

  Discussion Board 1: As Standards are prevalent within educational systems and specifically Technology Education. For this discussion board you are required to explore high and middle school Technology Education websites and search for standards based Technology Education projects that are of interest to you. Ultimately you will be writing a research paper and producing a project and lesson plan based on standards. This is a great opportunity for you to investigate possible projects for future projects. Narrow your search to one project and share it on this discussion board. You must provide the link or file of the project. 250-word minimum. Additionally, comment on at least two of your classmate’s submissions. BE SURE TO BE PROFESSIONAL WITH YOUR COMMENTS!

| Course Objective 2: FAMU CF: 5.4; FEAPS: 3, 7; FSAC: 1.5, 1.6; ITEA: 6; INASC: 2 |

  Discussion Board 2 – In addition to the many standards associated with teaching and learning in Technology Education settings, integration with other subjects is essential. The Science, Technology, Engineering and Mathematics (STEM) Initiative has become an ever-increasing addition to lessons taught that enhance standards based teaching and learning. Explore websites that deal with STEM and (if possible) standards-based Technology Education Projects. If you cannot find a project that has both components, discuss how you could integrate STEM into the project you found on discussion board one. Additionally, comment on at least two of your classmate’s submissions. BE SURE TO BE PROFESSIONAL WITH YOUR COMMENTS!

| Course Objective 6: FAMU CF: 5.5; FEAPS: 7; FSAC: 12.6 &7; ITEA: 3; INTASC: 5 |

- Worksheets - You will have 2 worksheets throughout the semester. The worksheets are designed to identify characteristics of a professional teacher and compare them to your individual characteristics in addition to relating them to professional certification requirements, organizations, standards and opportunities within technology education field.

  Worksheet 1 – Engineering and Technological Design Methods Worksheet. This worksheet is designed to assess your understanding of the requirements that are needed when designing a product or process. Your understanding of these methods is a vital component to your becoming an effective and informed Technology Educator. You will identify criteria that is prevalent in both methods and compare and contrast each.

| Course Objective 1: FAMU CF: 4.1; FEAPS: 4, 7; FSAC: 1.1&2; ITEA: 10, 13; INTASC: 1 |
| Course Objective 3: FAMU CF: 2.3; FEAPS: 12; FSAC: 3.1&2; ITEA: 6; INTASC: 1, 6 |

  Worksheet 2 – Standards Based Curricula Worksheet. Many structured curriculums are currently being used in Technology Education classrooms now and will be in the future. Specifically Engineering by Design (EbD) and Project Lead the Way (PLTW). This worksheet will provide you with vital information regarding these diverse curricula and materials needed that you will ultimately be using when you are producing a project and lesson plans based on standards.

| Course Objective 4: FAMU CF: 4.2; FEAPS: 2, 7; FSAC: 3; ITEA: 9, 10; INTASC: 4 |
Research Paper:

**Introduction:** research and write a paper about a standards based project that you would like to produce and could be taught in either a middle or high school Technology Education setting. Be sure to identify which grade level you think is appropriate. You will ultimately be using this research to assist you in your final project and class presentation.

**Details:**
1. Identify a current, emerging, or future technology of interest. Your topic must be pre-approved.
2. Prepare a 3-page paper that covers the following topics:
   - **Technology Operations** - How does the technology work? What are its basic operational features? Research the technology and determine how it works, what it does, how it operates, etc.
   - **Standards Impact** – Identify at least two standards each from the FEAPS, FACS, SSD, and ITEA standards that could be applicable to this project. Additionally, identify how STEM could be integrated into the project.

The paper should be word-processed, 12 point type, Times or Arial regular font, .75-inch margins all around, line spacing of 1.5, and not exceed three pages. Papers will be submitted to Blackboard and will be checked on TurnItIn.com, so do not plagiarize.

**Final Project**

You will produce a final standards based project based on the information and knowledge you have gained throughout the semester. You may produce the final project individually or collaborate with one other classmate. Along with the physical project, you will produce a project portfolio with complete documentation. The portfolio must be typed and presented in a clear-bound folder. Neatness will count heavily on your portfolio presentation. The final project portfolio must include the following components:

- **A Detailed Design Brief:**
  The following should be included in your design brief:
  1. Background and rationale for the project. Why is important that students learn what you are proposing? What is your proposed student level?
  2. A Problem Statement for the project. Remember this a problem statement, not the solution.
  3. Evidence of researching the project. (Use elements of your discussion board/research paper)
  4. Resources/materials needed to complete the project.
  5. Time Constraints. How long will this project take to complete?
  6. Evaluation Summary. How well did the project work? How could it be improved?

- **Lesson Plan Outline:**
For your final project portfolio, you will produce a lesson plan outline that will identify basic components that will assist in your potential students learning. This will be your first experience constructing a lesson plan; therefore, only basic information is required. You will be exposed to several different Technology Education lesson plans (available via Blackboard) and relate them to you’re your final project. You must include what standards will apply, an objective, materials needed, and an assessment instrument (quiz, test, worksheet, etc.).

- **Visual Timeline**
Include a visual timeline that includes digital photographs and dates associated with the progression of your project.

- **Class Presentation**
**Presentation Criteria:** Your presentation should engage your audience in all aspects of your project. You should develop a quality presentation that you will be proud to use as a teaching aid in your future classroom. Additionally, this will help you to continue to develop the public speaking skills all educators need to teach. The format must be in PowerPoint, and you will make a presentation no longer than 15 minutes and no shorter than 10 minutes.
<table>
<thead>
<tr>
<th>Week 1</th>
<th>Course Syllabus; General Overview of the Course Lecture: Safety in the FAMU Technology Education Laboratory Introduction to Lab Safety Exam Lab: Walk Through</th>
<th>Review Week 2 Lecture PowerPoints; Read Unit 1, Chapters 1, 2, &amp; 3 of the Text. Be prepared to discuss these topics in class. Review the FAMU Technology Education Safety Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 2</td>
<td>Lecture: Materials Science and Engineering Design Systems in the Technology Education Classroom Standards Based Curricula in Contemporary Technology Education Demonstration of Tools and Machines Safety Exam* - Students must pass the Exam with 96 of 100pts or retake</td>
<td>Review the Week 3 PowerPoints; Read Unit 1, Chapters 4 &amp; 5 of the Text. Be prepared to discuss these topics in class. Assignment: Introduction to Research Paper – Choose a technology content area (transportation, communications, energy &amp; power, etc.) and explore the FEAPS, FSAC, and ITEA standards/benchmarks that are associated with that content area. Write a 2-3 page paper regarding a TE 6-12 project that you could produce that includes the standards.</td>
</tr>
<tr>
<td>Week 3</td>
<td>Lecture: State and National Standards in the Technology Education Classroom - Creating a Standards Based Project Elements and Creation of a Design Brief Quiz 1: Materials Science</td>
<td>Review the Week 4 PowerPoints; Read Unit 7, Chapter 6 of the Text. Be prepared to discuss these topics in class. Lab Project 1: Reverse Engineering – You will bring in a flashlight and improve on the design using engineering materials and processes explained in the class lectures. You will also begin to create a design brief for the project. Discussion Board 1: Web Search for Standards Based TE Projects</td>
</tr>
<tr>
<td>Week 4</td>
<td>Lecture: Science, Technology, Engineering and Mathematics (STEM) in Technology Education. Technology Education Curricula: EdB - Engineering by Design; IE - Invention, Inquiry, and Innovation; and PLTW - Project Lead the Way</td>
<td>Review the Week 5 PowerPoints; Read Unit 2, Chapters 7 &amp; 8 of the Text. Be prepared to discuss these topics in class. Lab: Reverse Engineering Project Cont. Standards Based Curricula Worksheet: Download the worksheet via Blackboard, complete it and upload via the Blackboard Turn-in Portal. Research Paper Topic Due*</td>
</tr>
<tr>
<td>Week 5</td>
<td>Lecture: Design Processes: Documenting a Project Transportation, Energy and Power in the Technology Classroom Quiz 2: Technology Education Curricula</td>
<td>Review the Week 6 PowerPoints; Read Unit 7, Chapters 21 &amp; 22 of the Text Be prepared to discuss this topic in class. Lab Project 2: Transportation, Energy and Power Project Cont. Review the Week 7 PowerPoint: Where to Purchase Materials for Technology Education Projects. Be prepared to discuss this topic in class.</td>
</tr>
<tr>
<td>Week 6</td>
<td>Lecture: Choosing the Right Project for Middle and High School Technology Education Classes</td>
<td>Lab Project 2: Transportation, Energy and Power Project Cont. Review the Week 8 PowerPoint. Read Unit 3, Chapters 9 &amp; 10 of the Text. Be prepared to discuss this topic in class. Lab Project 2: Transportation, Energy and Power Project Cont.</td>
</tr>
<tr>
<td>Week 7</td>
<td>Lecture: Where to Purchase Materials for Technology Education Projects Review For Midterm</td>
<td>Review the Week 9 PowerPoint; Review the Teacher maters section of the Text Design Systems Worksheet: Download the worksheet via Blackboard, complete it and upload via the Blackboard Turn-in Portal.</td>
</tr>
<tr>
<td>Week 8</td>
<td>Midterm Lecture: Introduction to Communications/Information Systems Project</td>
<td>Review the Week 10 PowerPoint. Be prepared to discuss this topic in class. Lab Project 3: Communications/Information Systems Project – Making movies using MovieMaker or iMovie. Groups of 2-3 students will make a movie about Technology Education</td>
</tr>
<tr>
<td>Week 9</td>
<td>Lecture: Structuring a Standards Based Lesson Plan</td>
<td>Read Unit 6, Chapters 18, 19, &amp; 20 of the Text. Be prepared to discuss these topics in class. Lab Project 3: Communications/Information Systems Project Cont.</td>
</tr>
<tr>
<td>Week 10</td>
<td>Lecture: Assessment of Standards Based Projects</td>
<td>Review the Week 12 PowerPoint. Be prepared to discuss this topic in class. Lab Project 4: Construction Project Cont.</td>
</tr>
<tr>
<td>Week 11</td>
<td>Quiz 3: Standards Based Lesson Plans</td>
<td>Assignment: Standards Based Lesson Plan* Lab: Final Project – Individually or with a partner, you will design and produce a standards based technology Education project.</td>
</tr>
<tr>
<td>Week 13</td>
<td>No Lecture Quiz 4: Assessment</td>
<td>Lab: Final Project Cont.</td>
</tr>
<tr>
<td>Week 14</td>
<td>No Lecture</td>
<td>Lab: Final Project Cont.</td>
</tr>
<tr>
<td>Week 15</td>
<td>Review For Final Exam</td>
<td>Lab: Final Project Cont. Presentation of Final Project Final Project Portfolio Due* All Work Due</td>
</tr>
<tr>
<td>Week 16</td>
<td>Final Exam</td>
<td>All Lab and Assignment Criteria Available via Blackboard * Denotes TaskStream Artifact Submission</td>
</tr>
</tbody>
</table>
Syllabus Reference Materials:

- Florida Department of Education Website (http://www.fldoe.org)
- International Technology Education Association (http://www.iteaconnect.org)

Online Course Content References:

- Engineering by Design™ (EbD) A Standards-Based Model Program (http://www.iteaconnect.org/EbD/ebd.htm)
- ITEA Corporate Member Product Directory (http://www.iteaconnect.org/Marketplace/onlinedirectory.pdf)
- Project Lead the Way http://www.pltw.org/

References:


Criteria for rating | Favorable | Acceptable | Marginal | Unacceptable |
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<td>The candidate rarely or never and <strong>inappropriately</strong> or <strong>superficially</strong> demonstrates indicators of performance.</td>
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**Professionalism**: The Teacher Candidate demonstrates professionalism (Please use a ✓ to indicate level of performance.)

**Outcome**

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- Punctuality
  - Does not exceed three unexcused absences, per university catalog 2009-2010
  - In class at or before specified time, per Registrar
  - Attends class, field experiences, meetings
  - Appropriate dress and grooming
  - Completes assignments on or before due date
  - Emotional Management
    - Handles feeling appropriately
    - Reacts reasonably to situations
    - Finds a healthy balance between emotions
  - Demonstrates the appropriate use of personal technology during class
  - Follows established protocol and procedures
  - Follows established procedures and policies

Criteria for rating | Favorable | Acceptable | Marginal | Unacceptable |
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**Effective Communication**: The Teacher Candidate demonstrates effective communication skills (Please use a ✓ to indicate level of performance.)

- Uses standard English language in various settings
- Uses appropriate tone of voice for the setting
- Clearly articulates concepts (avoids words such as you know, um, uh-uh, and okay)
- Models appropriate respectful communication that is not demeaning or harmful (avoids loud outbursts and profanity)
- Avoids confrontational behavior

**Outcome**

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**Respectful Behavior: The Teacher Candidate demonstrates respectful behavior**

(Please use a ✓ to indicate level of performance.)

- Considers opinions of others with an open mind (respects diversity)
- Listens to others in a variety of settings
- Provides equitable learning opportunities for all
- Considers background interests and attitudes
- Reacts reasonably to situations (avoids verbal confrontational behavior)

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**Ethical Behavior: The Teacher Candidate demonstrates ethical behavior**

(Please use a ✓ to indicate level of performance.)

- Demonstrates academic honesty
  - Avoids plagiarizing
- Demonstrates honesty inside and outside of the classroom
- Demonstrates trustworthiness
- Understands the importance of professional code of ethics
- Advocates fairness

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**Reflective Behavior: The Teacher Candidate demonstrates reflective behavior**

(Please use a ✓ to indicate level of performance.)

- Accepts feedback and suggestions, and incorporates in subsequent practice in various settings
- Demonstrates accurate self-analysis regarding ones strengths and weaknesses