Savannah State University
New Programs and Curriculum Committee
Summary Page – Form I

1. **Submitting College:** SOTE

2. **Department(s) Generating The Proposal:** Choose an item.
   Choose an item. (if needed)

3. **Proposal Title:** Educational Technology

4. **Course Number(s):** EDUC 3104

5. **Course Title(s):** **Educational Technology**

6. **Effective Date:** Spring **Year:** **2014**

7. **Brief Summary of Proposal:** This course is an overview of the field of educational technology emphasizing current issues, leadership in technology use planning, and evaluation/synthesis of research. Educational technology encompasses technologies, theories, and models from a wide range of disciplines such as computer science, media production, instructional design, and educational practice

8. **Type of Proposal:** New Course If other, please describe: Click here to enter text.

9. **Impact on Library Holdings**
   Existing: None
   Additional: None
   Deletions: N/A

10. **Impact on Existing Programs:** None. This course is designed to meet GaPSC Rules for Teacher Preparation and more specifically the technology requirements of all education majors,. The specific rules satisfied by this course are 505-3-.01 REQUIREMENTS AND STANDARDS FOR APPROVING PROFESSIONAL EDUCATION UNITS AND EDUCATOR PREPARATION PROGRAMS and 505-2-.16 CERTIFICATION BY STATE-APPROVED PROGRAMS .

11. **Additional Resources Required**
    Personnel: Adjunct or Part-time
    Non-personnel: None

12. **Approvals:**

- Department Curriculum Committee Signature_____ Date_____
- Department Chair Signature_____ Date_____
- College Curriculum Committee Signature_____ Date 9/25/13
- College Dean Signature_____ Date 9-25-2013
- Vice President of Academic Affairs Signature_____ Date_____
  (Chair of the New Programs and Curriculum Committee)
- Faculty Senate Signature_____ Date_____

Savannah State University

New Programs and Curriculum Committee

Course Addition Page – Form II

1. **Course Number:** ETED 3104

2. **Course Title:** Engineering Technology Education Laboratory

3. **Catalogue Description:** This course provides a series of engineering technology lab work that emphasizes science, technology, engineering and math. Lab work allows students to balance technical, economic, aesthetic, environmental, and moral criteria to make decisions influencing design, production and technical presentation.

4. **Rationale:** This course will help meet the needs of students who have seeking a B.S. in Civil or Electronics Technology Engineering with the Technology Education Track.

5. **Credit Hours:** 3 Credit Hours

6. **Pre-requisites:** Admittance into Teacher Education

7. **Syllabus:** See Attached

8. **Similarity to or duplication of Existing Courses:** N/A

9. **Textbook Selection:** Welch, Malcom, and Gradwell, John (2012). Technology: Engineering Our World. Textbook Workbook. Goodheart-Willcox.

10. **Grading:** A (90-100); B (80-89); C (70-79); D (60-69); F (Below 60)

ETED 3104 - Engineering Technology Education Laboratory
Savannah State University
School of Teacher Education

Course Number: **ETED 3104**

Instructor: Dr. Kisha R. Cunningham
Office: 110 Morgan Hall
Phone: 912-358-3068
Email: cunninghamk@savannahstate.edu

Course Title: **Engineering Technology Education Laboratory**
Office Hours: Monday- Friday 10am-12pm
Class Time: TBA
Room: COST – Room TBD

Instructor's Education:
Ph.D. The Pennsylvania State University, 2006
M.S. North Carolina A&T State University, 1996
B.S. North Carolina A&T State University, 1995

Catalog Course Description:
This course provides a series of engineering technology lab work that emphasizes science, technology, engineering and math. Lab work allows students to balance technical, economic, aesthetic, environmental, and moral criteria to make decisions influencing design, production and technical presentation.

Course Overview:
This course is designed to give technology education students a better understanding of the engineering and technology concepts learned in previous courses. This is done by having students engage in design and fabrication activities. Working in groups, the students will also gain experience in "real world" operations such as design, construction, operations, technical communications and maintenance of engineering and technological structures and systems. There is an emphasis on producing high-quality technical reports and reflection on design and fabrication. **Course is required for students who are seeking teacher certification.**

Semester Hours:
3 Credit Hours

Pre-requisites:
Admittance into Teacher Education
ETED 3000

Required Texts:
Welch, Malcom, and Gradwell, John (2012). Technology: Engineering Our World.. Goodheart-Willcox.

Course Objective:

Student Learning Outcomes: Upon completion of this course, students will be able to:

- Devise an experimental approach, specify appropriate equipment and procedures, implement these procedures, and interpret the resulting data to characterize an engineering material, component, or system.

- Demonstrate the ability to collect, analyze, and interpret data, and to form and support documentation and conclusions. Make order of magnitude judgments, and know measurement unit systems and conversions.

- Design, build, or assemble a part, product, or system, including using specific methodologies, equipment, or materials; meeting client requirements; developing system specifications from requirements; and testing and debugging a prototype, system, or process using appropriate tools to satisfy requirements.

- Recognize unsuccessful outcomes due to faulty equipment, parts, code, construction, process, or design, and then re-engineer effective solutions.

- Demonstrate appropriate levels of independent thought, creativity, and capability in real-world problem solving.

- Demonstrate competence in selection, modification, and operation of appropriate engineering tools and resources.

- Recognize health, safety, and environmental issues related to technological processes and activities, and deal with them responsibly.

- Communicate effectively about laboratory work with a specific audience, both orally and in writing, at levels ranging from executive summaries to comprehensive technical reports.

- Work effectively in teams, including structure individual and joint accountability; assign roles, responsibilities, and tasks; monitor progress; meet deadlines; and integrate individual contributions into a final deliverable.

- Behave with highest ethical standards, including reporting information objectively and interacting with integrity.

- Use the human senses to gather information and to make sound engineering judgments in formulating conclusions about real-world problems.

Recommended Optional Materials/References

Further readings from the approved reading list, newsletters and periodical from professional education organizations (e.g. IWITTS, ITEEA, TSA, NSTA, ASEE, JETS, SAE, Technology Teacher, TIES, Tech Directions, CTTE Yearbook, Robotbooks.com, Technology Review & Cambridge University Press).

Instructional Methods and Requirements:
This course will utilize various methods of instructions, i.e., lecture notes, small group analysis, and lab work. Students will also be responsible for class and online discussion based upon readings, lectures and videos. Students will further develop skills of reflection and practice in decision making, communication, group leadership, conflict resolution, and evaluative skills.

Expectations
Students are expected to come to class prepared to discuss readings, and use computer technology and research for course assignments and final research paper.

ALL CLASS ASSIGNMENTS MUST BE TYPED AND PRESENTED TO THE INSTRUCTOR BEFORE CONCLUSION OF CLASS. ALL ONLINE ASSIGNMENTS MUST BE SUBMITTED BY 11:59PM ON DUE DATE. LATE PAPERS WILL BE DEDUCTED TWO POINTS FOR EACH DAY LATE.
Assignments stress critical thinking skills and emphasize concepts and ideas rather than memorization of facts.

Grading

Class Participation	20%
Labwork	40%
Quizzes	10%
Midterm	10%
Final	20%
Total	100%

Class Participation (20%)

Students are required to correspond on the Class bulletin board in Taskstream weekly during the semester to provide critical commentary and reflection on labwork. Students will reflect on how class labs, class readings, class video affected the way in which they view the design and fabrication of labwork . Weekly discussion questions will be posted on Taskstream every Monday and are due at 11:59pm on Friday.

Labwork (40%)

Each student will critically engage in meaningful lab design and problem solving activities that make a difference in society.

Quizzes (10 %)

Quizzes will be given periodically at beginning of class. There is NO make-up for quizzes. See course at a glance for week of Quizzes.

Midterm Exam (10%)

Test covers Week 1-7

Final Exam (20%)

Test covers all objectives

Evaluation:

ASSIGNMENT	Point Percent	Points Earned	Total
Class Participation	20		
Labwork	40		
Quizzes	10		
Midterm	10		
Final	20		
Total	100		

Grading Scale
The grading scale below will be used to determine your final grade:

90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

Schedule of Course Activities
Course calendar of activities, rubric, syllabus and related course material are posted in Desire2Learn (D2L) Course Management System.

Week One
Engineering Principles - measurements, formulas, design, problem solving methods, data analysis and graphing.

Week Two
Engineering Graphics I - orthographic sketching, logo design, modeling.

Week Three
Engineering Graphics II - CAD/CAM, and milling

Week Four
Aerospace Engineering - straw rockets, fuel pressure with air-powered rockets, fuel volume and trajectory with water rockets, altitude and velocity with solid-fuel rockets.

Week Five
Civil Engineering – basic structural concepts, beam and joint strength, compression, tension, model bridges and towers.

Week Six
Electrical Engineering -switches, series, parallel circuits, Ohm's law, schematics, breadboarding, and soldering.

Week Seven
Midterm
Environmental Engineering - recycling, passive solar design, watersheds and public transportation.

Schedule of Course Activities Continued

Week Eight
Engineered Dragster - Newton's laws, identifying and minimizing friction, and bearing surfaces.

Week Nine
Marine Engineering – rubber band powered boat, mousetrap powered boat, and traditional boat hull.

Week Ten
Mechanical Engineering - electric and solar cars, mousetrap vehicles, siege machines kits, and cranes.

Week Eleven
Roller Coaster Engineering - gravity, g-force, potential and kinetic energy.

Week Twelve
Sustainable Energy Engineering - energy consciousness, solar cooking, solar and fuel cell vehicles and wind energy.

Week Thirteen
R/C Robotics Engineering - simple machines, torque, power and problem solving.

Week Fourteen
Autonomous Robotics Engineering - programming robot to (dance, detect light, and kick a soccer ball)

Week Fifteen
Final Exam

Course Policies

1. Late and handwritten assignments will not be accepted.
2. All assignments must be professionally presented and documented according to APA style.
3. Because of the intensity of the course there is no provision for make-up work.
4. Students will adhere to Savannah to Savannah State University's Honor Code. Students committing acts of academic dishonesty is subject to disciplinary action.

Tardy Arrival/Early Departure Policy:
You are expected to arrive on time for each class and to remain until class is dismissed. Late arrivals (and early departures) disrupt the class.

Course Amendments:
The instructor reserves the right to amend any aspects of the course outline as deemed necessary and useful to the goals of the course as well as the students' progress and success.

Absence Policy

Class attendance is important for the benefit of students. Students should attend every class for which the student is scheduled and should be held responsible for all work covered in the courses taken. In each case, the instructor should decide when the class absence constitutes a danger to the student's scholastic attainment and should make this fact known to the student at once. A student whose irregular attendance causes him or her, in the judgment of the instructor, to become deficient scholastically, may run the risk of receiving a failing grade or receiving a lower grade than the student might have secured had the student been in regular attendance. Instructor will provide, within reason, opportunity to make up work for students who miss classes for other legitimate but unavoidable reasons. Legitimate, unavoidable reasons are those such as illness, injury, family emergency, or religious observance. If an evaluative event will be missed due to an unavoidable absence, the student should contact the instructor as soon as the unavoidable absence is known to discuss ways to make up the work. An instructor might not consider an unavoidable absence legitimate if the student does not contact the instructor before the evaluative event. Students will be held responsible for using only legitimate, unavoidable reasons for requesting a make-up in the event of a missed class or evaluative event. Requests for missing class or an evaluative event due to reasons that are based on false claims may be considered violations of the policy on Academic Integrity.

Savannah State University Policies

Incomplete Grades

Courses in which a student received a grade of "I" MUST be completed within the following semester, excluding summer sessions; otherwise these grades become "F". The responsibility rests with the student in making up the work required, or taking the examination to change an "I" within the allotted time.

Withdrawal from Course

A student may withdraw from a course during the first week of classes with no entry on his or her official college transcript. From the second through the tenth week of classes, a student may withdraw from a course with a grade of W on the transcript. A student MUST complete the proper form in the Registrar's Office.

Statement of Non-Discrimination

Savannah State University supports the Civil Rights Act of 1964, Executive Order #11246, Title IX of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act. No person shall, on the basis of age, race, religion, color, gender, national origin or disability, be excluded from participation in, or be denied the benefits of, or be subjected to discrimination under any program or activity of the college. Any individual with a grievance related to the enforcement of any of the above provisions should contact the Assistant Director of Human Resources, Ombudsperson.

Affirmative Action Statement

Savannah State University is an equal opportunity employer which assures that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability, be excluded from employment or participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity the institution conducts. Savannah State University complies with all state and federal affirmative action guidelines and criteria in its employment and hiring procedures and practices.

Academic Dishonesty Policy

This policy is listed in the Student Handbook.

"Students are expected to demonstrate a high standard of academic honesty in all phases of academic work and college life. Academic dishonesty represents an attack on intellectual integrity without which there can be no true education. In taking tests and examinations, completing homework, projectoratory work, and writing papers, students are expected to perform honestly. Consequently, Savannah State has established the following policies for detected acts of academic dishonesty.

1. All cases of detected academic dishonesty will be reported by the faculty to the Vice President for Academic Affairs.
2. Plagiarism or cheating in any academic work will result in a recorded grade of "F" for that work.
3. A second offense during the course of a student's academic career at Savannah State will result in an "F" for the course in which the academic dishonesty has occurred. In addition, students who have committed a second offense of academic dishonesty during their academic career at Savannah State will be placed on academic probation for a minimum of one semester.
4. A third incidence of academic dishonesty during a student's career at Savannah State will result in immediate dismissal from the College."

American With Disabilities Act Statement/Special Services

Savannah State University is committed to providing reasonable accommodations to students with documented disabilities, as required under federal law. If you are a student who is disabled as defined under the Americans with Disabilities Act and require assistance or support services, please seek assistance through the Center for Disability Services. The purpose of disability accommodation is to provide equal access to the academic material and equal access to demonstrate mastery of the material. Students with disabilities must meet all the academic requirements and standards of the class, including the attendance policy. *If you have a disability and need accommodations, please contact Amelia Castilian-Moore, Coordinator of Disability Services at (912) 358 3115 or moorea@savannahstate.edu. The Office of Counseling and Disability Services is located in King Frazier 233.* You will need to meet with Ms. Castilian-Moore, who can help you gather documentation of your disability or refer you to an appropriate resource for assessment. Once documentation of the disability is gathered and approved, Ms. Castilian-Moore will provide you with an Accommodation Letter, detailing the appropriate, approved accommodations, which you should present at the **BEGINNING OF THE TERM** so we can discuss and implement your accommodations.

Equal Opportunity Statement

Savannah State University is an equal employment opportunity institution. The institution's policy is that all recruiting, hiring, and promotion in all categories will be accomplished without regard to race, creed, color, national origin, sex, sexual orientation, handicap, or age. All personnel policies and employees benefits will be administered in a nondiscriminatory manner. As a part of this policy, an equal employment opportunity/affirmative action office is maintained on campus.

SYLLABUS ACKNOWLEDGEMENT FORM

- I have received a copy of the ETED 3104 course syllabus in person.
- I have read and understand the content.

Name _____
(Please print)

Signature _____

Date _____

(You must submit this form to the instructor after the first week of class.)