1. Program Description and Objectives:
The Bachelor of Engineering Technology (BET) combines and emphasizes a study in fundamental and advanced areas of mathematics, science and engineering. This interdisciplinary approach will expose and prepare students to a variety of solution encountered by practicing engineers. BET graduates will be equipped with the knowledge and broad background necessary to function effectively in a multidisciplinary problem-solving environment. As graduates of the proposed BET program, students will achieve a level of mastery in engineering and design that enables them to pursue successful careers in industry, consulting, or public service, or further their education.

a. Objectives of the program
The objective of the proposed Bachelor of Engineering Technology program is to be an instructional program that prepares individuals to apply mathematical and scientific principles to the solution of practical problems. The proposed BET program has the following educational student learning outcomes. BET graduates will have:
an ability to select and apply the knowledge, techniques, skills, and modern tools of the
discipline to broadly-defined engineering technology activities;

an ability to select and apply a knowledge of mathematics, science, engineering, and
technology to engineering technology problems that require the application of principles
and applied procedures or methodologies;

an ability to conduct standard tests and measurements; to conduct, analyze, and interpret
experiments; and to apply experimental results to improve processes;

an ability to design systems, components, or processes for broadly-defined engineering
technology problems appropriate to program educational objectives;

an ability to function effectively as a member or leader on a technical team;

an ability to identify, analyze, and solve broadly-defined engineering technology
problems;

an ability to apply written, oral, and graphical communication in both technical and
nontechnical environments; and an ability to identify and use appropriate technical
literature;

an understanding of the need for and an ability to engage in self-directed continuing
professional development;

an understanding of and a commitment to address professional and ethical responsibilities
including a respect for diversity;

a knowledge of the impact of engineering technology solutions in a societal and global
context; and

a commitment to quality, timeliness, and continuous improvement.

b. Needs the program will meet
The proposed Bachelor of Engineering Technology degree is designed to meet the needs of
regional employers, and respond to the demands of economic development in the region.
Currently, there is an unmet need for additional technically trained individuals in the coastal
region of Georgia to support industrial and government employers and to enable sustainable
economic growth for the region. This is particular true for aerospace, power generation,
and marine industrials. A highly trained and skilled technical workforce is necessary to attract new
industries, as well as to provide the resources for entrepreneurial develop of small business.
Economic development and job growth occur when local universities provide the needed degree
programs to train and produce a highly skilled and well-prepared technological labor force. The
shortage of graduates trained in engineering disciplines is recognized as a worldwide problem,
which makes it even more critical in demographic regions like the coastal region of Georgia,
where employers currently seek such graduates and where more are needed for job growth and
economic development.

Savannah State University has a fortuitous combination of intellectual resources to bring to bear in the
field of engineering technology. Approximately 20 faculty members of the College of Sciences and
Technology have Master’s and/or Doctoral degrees in the field of engineering that coupled with years of
teaching and research experience makes establishing a Bachelor of Engineering Technology program
at Savannah State University, a viable option. This allows Savannah State University to be uniquely
positioned to support the new program because of these core and cross-engineering disciplinary
competencies. The new BET program will take advantage of the breadth of college faculty with graduate
degree in engineering whose background can contribute to a strong undergraduate engineering degree
program. This implementation strengthens the infrastructure needed for this and other interdisciplinary programs at Savannah State University.

Savannah State University can leverage its historical connection to and experience with minorities and women to increase diversity in the field of Engineer Technology in the state and nation. Currently South Carolina State University is the only HBCU with undergraduate engineering technology program similar to the proposed BET program. Offering the proposed BET program at Savannah State University could be a key component of the Board of Regents efforts to diversify the student body at SSU. In addition, the programs potential role with respect to diversifying the numbers of engineering technology graduates in the state due the large number of African America students that thrive in environments like the one at Savannah State University. Students that traditionally flourish at Savannah State University tend to graduate at a lesser rate at majority institutions, hence establishing an engineering program at Savannah State University would have a tremendous impact on the quantity and quality of African-American Engineers in Georgia.

c. Brief explanation of how the program is to be delivered
It is expected that the proposed Bachelor of Engineering Technology will be delivered to on-campus students through traditional classroom and laboratory instruction, along with some online components to help reinforce the knowledge learned in the classroom or laboratory. Instruction to any off-campus students will be done via distance education. Place-bound students and working adults will be able to complete portions of the BET degree primarily via the Internet/on-line or eLearning. It is anticipated that professionals from local and regional industries seeking to maintain or upgrade their job skills will also avail themselves of the program.

The College of Sciences and Technology was recently awarded a Department of Education Title III grant valued at $1 million over five years to develop the needed infrastructure to stream in an asynchronous and synchronous manner class lecture and lab material to off-campus students who may enroll courses in the BET program via distance education. At this time, the college will develop less than 50% of the BET course work to be delivered on-line.

d. Prioritization within the institution’s strategic plan
Savannah State University is committed to “developing productive members of a global society through high quality instruction, scholarship and community involvement.” The College of Sciences and Technology is committed to offering the BET degree program that will produce graduates equipped with a solid scientific foundation, which includes problem solving, and design skills necessary for success in their chosen occupation.

The proposed BET program supports the institution's strategic plan. The university's strategic plan focuses on "value added" and demonstrates the support of expanding opportunities for the university to meet the needs of the local community and greater low country of Georgia. The proposed new BET program encompasses and is integral to the central focus of the strategic plan by providing opportunities for students (traditional and non-traditional) to add value to the local community, low country region and state. Once approved and implemented, the new BSE program will align with Goals 1 and 2 of SSU’s Strategic Plan “Vision 2018”.

Goal 1: Savannah State University will maximize its comparative advantage through academic excellence, applied learning, effective educational support, and community involvement.
Goal 2: Savannah State University will continue to build its institutional capacity through the continuous improvement and expansion of academic programs, student support, infrastructure, technology, and community relations.

Additionally, the proposed new program aligns with the USG's vision, mission, and strategic goals.

**Board of Regent's Vision**
The University System of Georgia will create a more educated Georgia, well prepared for a global, technological society, by providing first rate undergraduate and graduate education, leading-edge research, and committed public service.

**Board of Regent's Mission**
The mission of the University System of Georgia is to contribute to the educational, cultural, economic, and social advancement of Georgia by providing excellent undergraduate general education and first-rate programs leading to associate, baccalaureate, masters, professional, and doctorate degrees; by pursuing leading-edge basic and applied research, scholarly inquiry, and creative endeavors; and by bringing these intellectual resources, and those of the public libraries, to bear on the economic development of the State and the continuing education of its citizens.

**Board of Regent's Strategic Goals**
One: Renew excellence in undergraduate education to meet students' 21st century educational needs.

Two: Create enrollment capacity to meet the needs of 100,000 additional students by 2020.

Three: Increase the System’s participation in research and economic development to the benefit of a global Georgia. Enhance and encourage the creation of new knowledge and basic research across all disciplines.

2. **Description of the program’s fit with the institutional mission and nationally accepted trends in the discipline.**

**Mission of Savannah State University**
Savannah State University, the oldest public historically black university in the State of Georgia, develops productive members of a global society through high quality instruction, scholarship, research, service and community involvement. The University fosters engaged learning and personal growth in a student-centered environment that celebrates the African American legacy while nurturing a diverse student body. Savannah State University offers graduate and undergraduate studies including nationally accredited programs in the liberal arts, the sciences and the professions.

Savannah State University is committed to “developing productive members of a global society through high quality instruction, scholarship and community involvement.” The College of Sciences and Technology is committed to offering proposed Bachelor of Engineering Technology program that will produce general engineering education that covers topics that
prepare students to be a broadly educated engineer: math, physics, statics, dynamics, thermodynamics, computer programming, and electrical circuits. The program includes communication skills as well as general education requirements. This proposal is consistent with the USG System goal to “create a more educated Georgia.” The development of this degree program is a high priority in the current academic mission of Savannah State University.

3. Description of how the program demonstrates demand and a justification of need in the discipline and geographic area and is not unnecessary program duplication.

According to the Bureau of Labor Statistics, the overall engineering employment is expected to grow by 11 percent over the 2008–18 decade.

The proposed Bachelor of Engineering Technology degree is unique in that the curriculum provides a engineering technology education that covers topics that prepare students to be a broadly educated engineering technologist including math, physics, statics, dynamics, thermodynamics, computer programming, and electrical circuits, among others. No program in the University System of Georgia currently provides this curriculum. Hence, graduates of the proposed program will be well equipped to handle engineering technology problems of a broad and interdisciplinary nature.

4. Brief description of institutional resources that will be used specifically for the program (e.g., personnel, library, equipment, laboratories, supplies & expenses, capital expenditures at program start-up and when the program undergoes its first comprehensive program review.

The College of Sciences and Technology (COST) comprises four departments: the Department of Natural Sciences, the Department of Engineering Technology and Mathematics, the Department of Naval Science and the Department of Military Science. It offers Bachelor of Science degree programs with majors in Biology, Chemistry, Environmental Sciences, Forensic Science, Marine Science, Mathematics, Civil Engineering Technology, Computer Science Technology, and Electronics Engineering Technology.

The College of Sciences and Technology has well developed research laboratories located in Drew-Griffith, Herty, Hubert A, B, C & D and the Marine Science buildings. These laboratories are fully equipped with the instruments required to conduct instruction and research in biology, biomedical science, chemistry, forensic science, and marine science, and engineering. The engineering labs include an iPodcasting Lab, Autocad Lab, Linux Lab, Electronics Engineering Lab, and Civil Engineering Lab. Our facilities are favorably comparable to excellent programs at other institutions. Additionally, the College is listed on the USG Capital Budget Recommendation web site to receive nearly $37.7 million over the next five years that will add nearly 130,000 square feet of classroom and laboratory instructional space for the college’s degree programs in marine and environmental sciences and engineering. See Appendix C.

The Asa H. Gordon Library offers a variety and wealth of informational resources and services to the university community. The library ensures access to resources to serve both the research and general needs of undergraduates, graduate students, and faculty through its collections of
print and electronic journals, GALILEO databases (a project funded by the Board of Regents of the University System of Georgia), interlibrary loans, a reference collection, and archival materials that relate to Savannah State University's history.

The library houses and provides access to approximately 190,209 volumes of books, 30,000 bound periodicals, 548,273 microforms and print periodical subscriptions, 4,000 audio visual materials, various educational media materials including television monitors, projectors, and distance learning facilities, and over 240 electronic databases including JSTOR. The library also has study and conference rooms that are equipped with computers with access to the Internet along with printing capabilities. The Gordon Library is centrally located within close proximity to all institutional facilities on campus. Access to the library is provided through two main ground level entrances. The east entrance is ADA accessible and is equipped with an entrance ramp and an automatic door. A newly renovated cafe is found on the first floor and provides an informal area for patrons to enjoy food and drink and quiet individual or group study. Students have access to over 95 computers located in study rooms, the computer lab and the reference area of the library.

In addition to its resources and collections, the Asa H. Gordon Library also offers services and programs desired by the faculty, staff, and students of Savannah State University. The library is the most reliable point of access for needed materials and information. The library's online catalog is located at http://gil.savannahstate.edu. The Voyager system, an integrated automated library system, enables patrons to access the library catalog 24/7 anywhere there is an Internet connection. Through interlibrary loan services, patrons may obtain materials that are not owned by the library or through GIL Express, a resource sharing initiative that allows students, faculty, and staff to borrow all eligible circulating materials at all 35 USG libraries. Faculty course reserves services are available for monographs, articles, and other instructional materials and electronic reserves services are also available and provide access through the library's catalog. Reference services are provided by librarians who assist patrons in locating and evaluating information to meet their research needs. Also the library provides instruction to any class offered at Savannah State University. Through this service, the objectives for Information Literacy Instruction and support for E-learning courses is also provided. The library has a well-trained staff available to assist the campus community at all times during the hours of operation.

If approved the proposed program will undergo its first comprehensive program review after its fourth year of operation.

5. Curriculum: List the entire course of study required and recommended to complete the degree program. Provide a sample program of study that would be followed by a representative student.

Core Curriculum Grid
All students should complete the 60 hours of core curriculum (Areas A-F) during their first two years of enrollment and prior to their enrollment in major classes. “A baccalaureate degree program must require at least 21 semester hours of upper division courses in the major field and
at least 39 semester hours of upper division work overall.” The following curriculum grid is recommended for engineering technology concentrations.

**Core Curriculum (Areas A, B, C, D, E) .............................................. 43 Credit Hours**

**A.** ENG 1101, ENG 1102 and MATH 1113  
**Credit Hours:** 9 Credit Hours  

**B.** Institutional Options (AFRS 1501, HUMN 1201)  
**Credit Hours:** 5 Credit Hours  

**C.** Humanities/ Fine Arts  
**Credit Hours:** 6 Credit Hours  

**D.** CSCI 1301 or CSCI 1371, CHEM 1211/1211L, CHEM 1212/1212L  
**Credit Hours:** 11 Credit Hours  

**E.** Social Sciences  
**Credit Hours:** 12 Credit Hours

**Additional University Requirements..........................................................5 Credit Hours**

Choose one of the following:

- BUSA 1103 COBA – Freshman Year Experience  
**Credit Hours:** 2 Credit Hours  

- CLAS 1103 CLASS – Freshman Year Experience  
**Credit Hours:** 2 Credit Hours  

- COST 1103 COST – Freshman Year Experience  
**Credit Hours:** 2 Credit Hours  

- COMM 1000 CLASS Mass Communications – Colloquium  
**Credit Hours:** 2 Credit Hours

Choose one of the following:

- HEDU 1101 Concepts in Healthful Living  
**Credit Hours:** 2 Credit Hours  

- HEDU 1111 Physical Fitness for Life  
**Credit Hours:** 2 Credit Hours  

- HEDU 1201 Physical Activity & Stress Management  
**Credit Hours:** 2 Credit Hours  

- HEDU 1211 Physical Activity & Body Composition  
**Credit Hours:** 2 Credit Hours

Choose one of the following:

- HEDU 1140 Tennis I  
**Credit Hours:** 1 Credit Hour  

- HEDU 1150 Beginning Golf  
**Credit Hours:** 1 Credit Hour  

- HEDU 1301 Weight Training  
**Credit Hours:** 1 Credit Hour  

- HEDU 1401 Physical Conditioning  
**Credit Hours:** 1 Credit Hour  

- HEDU 1501 Modern Dance Techniques  
**Credit Hours:** 1 Credit Hour  

- HEDU 1521 Aerobic Dancing  
**Credit Hours:** 1 Credit Hour  

- HEDU 1601 Swimming I  
**Credit Hours:** 1 Credit Hour  

- HEDU 1611 Swimming II  
**Credit Hours:** 1 Credit Hour  

- HEDU 1621 Aqua Dynamics  
**Credit Hours:** 1 Credit Hour

**Area F..............................................................................................................17 Credit Hours**

- ENGR 1101 Introduction to Engineering  
**Credit Hours:** 1 Credit Hours  

- MATH 2101 Calculus I  
**Credit Hours:** 4 Credit Hours  

- MATH 2111 Calculus II  
**Credit Hours:** 4 Credit Hours  

- PHYS 2211K Principle of Physics I  
**Credit Hours:** 4 Credit Hours  

- PHYS 2212K Principle of Physics II  
**Credit Hours:** 4 Credit Hours

**Concentrations.................................................................60 Credit Hours**

**Concentration for Chemical Engineering Technology..........................60 Credit Hours**

- ENGT 2201 Technical Writing  
**Credit Hours:** 2 Credit Hours  

- CHET 3201K Material/Energy Balance  
**Credit Hours:** 4 Credit Hours
<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CHET 3221K</td>
<td>Mass Transfer</td>
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<tr>
<td>CHET 3301K</td>
<td>Transport Phenomena</td>
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</tr>
<tr>
<td>CHET 4101K</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CHET 4201K</td>
<td>Process Control</td>
<td>3</td>
</tr>
<tr>
<td>CHET 4211K</td>
<td>Process Design</td>
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</tr>
<tr>
<td>ELET 3701K</td>
<td>Data Acquisition System</td>
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</tr>
<tr>
<td>CHET 3401K</td>
<td>Instrumentation</td>
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<td>ENGT 3701K</td>
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<td>3</td>
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<tr>
<td>MECT 3101K</td>
<td>Engineering Materials</td>
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</tr>
<tr>
<td>ELET 3101K</td>
<td>Electrical Circuit I</td>
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</tr>
<tr>
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<td>MECT 3411K</td>
<td>Thermodynamics</td>
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<tr>
<td>MECT 4301K</td>
<td>Heat Transfer</td>
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</tr>
<tr>
<td>ENGT 3501K</td>
<td>Dynamics</td>
<td>2</td>
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<tr>
<td>ENGT 3601K</td>
<td>Strength of Materials</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2501K</td>
<td>Organic Chemistry I or CHEM 3101K Analytical Chemistry</td>
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<tr>
<td>CHEM 2501L</td>
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<td>CHEM 3401K</td>
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<tr>
<td>MECT 3201K</td>
<td>Manufacturing Processes</td>
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<td>Machine Design I</td>
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<td>MECT 4111K</td>
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<td>ELET 3701K</td>
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<tr>
<td>MECT 4701K</td>
<td>Heating, Ventilation and Air Conditioning</td>
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<tr>
<td>ENGT 2201K</td>
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**Concentration for Mechanical Engineering Technology** ..................................60 Credit Hours

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<td>MECT 4701K</td>
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</tbody>
</table>
a. Clearly differentiate which courses are existing and which are newly developed courses. Include the course titles as well as acronyms and credit hour requirements associated with each course.

### Existing Courses

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<td>MECT 4401K</td>
<td>Applied Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>MECT 4701K</td>
<td>Heating, Ventilation and Air Conditioning</td>
<td>3</td>
</tr>
</tbody>
</table>

b. Append course descriptions for all courses (existing and new courses). Please see Appendix A for course descriptions.

c. When describing required or elective courses, list all course prerequisites. Please see Appendix A for course prerequisites.

d. Provide documentation that all courses in the proposed curriculum have met all institutional requirements for approval.
The proposed new degree curriculums with new and existing courses have been reviewed and approved at various institutional levels including department, college and university levels and has been approved for submission to the Board of Regents. Finally, the proposed new degree curriculum has the full support and approval of the Dean of the College of Sciences and Technology, the Vice President for Academic Affairs and the University’s President.

e. Append materials available from national accrediting agencies or professional organizations as they relate to curriculum standards for the proposed program.
Please see Appendix B.

f. Indicate ways in which the proposed program is consistent with national standards.
The proposed program is consistent with national standards because it is designed to meet accreditation requirements of the Technology Accreditation Commission of ABET (TAC-ABET). Also, the proposed BET program is similar to programs offered by other well established and nationally known TAC-ABET accredited programs at the following institutions:

- Cleveland State University
- Drexel University
- Ferris State University
- Florida Atlantic University
- Milwaukee School of Engineering
- New Jersey Institute of Technology
- Old Dominion University
- Southeastern Louisiana University
- South Carolina State University
- University of North Carolina at Charlotte
- University of Central Florida


6. Admissions criteria. Please include required minima scores on appropriate standardized tests and grade point average requirements.
The minimum requirement for admission to this degree program is listed below. Additionally, incoming students are required to attend mandatory advisement by faculty to ensure that they have the requisite background in science and mathematics for success in the degree.

**Regular Admissions Requirements:**
- Freshman Index of 1940*
- Minimum 1010 SAT (Math + Critical Reading) or 21 ACT (composite). *State minimum requirements for each portion of the SAT/ACT 430 Critical Reading, 400 Math; 17 English, 17 Math*
- Minimum High School GPA: 2.5
- 16 College Preparatory Curriculum Units

In addition to meeting the above admissions criteria, applicants graduating, or who would have graduated, from high school within the past five years must meet the requirements of the college preparatory curriculum (CPC) of the Board of Regents. *SAT Freshman Index = Combined SAT I scores + (High School Grade Point Average x 500). ACT Freshman Index = (High School GPA x 500) + (ACT composite x 42) + 88. The high school grade point average is calculated only on CPC course work required for admission.*

**College Preparatory Curriculum (CPC) Requirements:**
Sixteen CPC units in the areas below are required for regular admission to Savannah State University.

<table>
<thead>
<tr>
<th>CPC Area (Units)</th>
<th>Instructional Emphasis/Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (4)</td>
<td>• grammar and usage</td>
</tr>
<tr>
<td></td>
<td>• literature (American and world)</td>
</tr>
<tr>
<td></td>
<td>• advanced composition skills</td>
</tr>
<tr>
<td>Mathematics (4)</td>
<td>• two courses in algebra, one in geometry, and one advanced mathematics course</td>
</tr>
<tr>
<td>Science (3)</td>
<td>• physical science</td>
</tr>
<tr>
<td></td>
<td>• two laboratory courses from biology, chemistry, or physics</td>
</tr>
<tr>
<td>Social Science (3)</td>
<td>• acceptable social science courses</td>
</tr>
<tr>
<td>Foreign Language (2)</td>
<td>• two courses in one language emphasizing speaking, listening, reading, and writing</td>
</tr>
</tbody>
</table>

7. **Availability of assistantships (if applicable).**
Not applicable.

8. **Student learning outcomes and other associated outcomes of the proposed program.**
Based upon national accreditation of the Technology Accreditation Committee (TAC) of the Accreditation Board for Engineering and Technology (ABET) criteria, learning outcomes Engineering students will be expected to possess upon completion of their course work at Savannah State University include:
- An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities;
- An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;
- An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes;
• An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives;
• An ability to function effectively as a member or leader on a technical team;
• An ability to identify, analyze, and solve broadly-defined engineering technology problems;
• An ability to apply written, oral, and graphical communication in both technical and nontechnical environments; and an ability to identify and use appropriate technical literature;
• An understanding of the need for and an ability to engage in self-directed continuing professional development;
• An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;
• A knowledge of the impact of engineering technology solutions in a societal and global context; and
• A commitment to quality, timeliness, and continuous improvement.

9. Administration of the program:
   a. Indicate where the program will be housed within the academic units of the institution. The proposed Bachelor of Engineering Technology program will be housed in Department of Engineering Technology and Mathematics within the College of Sciences and Technology at Savannah State University. The department and College have adequate faculty to meet the required instructional needs of the BET program.

   b. Describe the administration of the program inclusive of coordination and responsibility. The day-to-day operation of the proposed Bachelor of Engineering Technology program will be handled by a coordinator who will be a full-time faculty member in Department of Engineering Technology and Mathematics and will report to the chairperson of department. The Program Coordinator will serve as the administrative head of the program with the responsibilities of:
   • selection, supervision, and support of the faculty.
   • advisement and supervision of the students.
   • operation of support facilities for faculty and students.
   • assign and schedule course offerings.

10. Waiver to Degree-Credit Hour (if applicable): If the program exceeds the maximum credit hour requirement at a specific degree level, then provide an explanation supporting the increase in hours (Note: The maximum for bachelor’s degrees is 120-semester credit hours and the maximum for master’s degrees is 36-semester credit hours). The proposed program does not require a waiver to degree-credit hour. The maximum credits for the BET degree is 120 semester credit hours plus 5 semester credits of additional university requirements for a total of 125 semester credit hours.

11. Accreditation: Describe disciplinary accreditation requirements associated with the program (if applicable).
The proposed Bachelor of Engineering Technology will follow the accreditation requirements of the Technology Accreditation Committee (TAC) of the Accreditation Board for Engineering and Technology (ABET).

12. Projected enrollment for the program especially during the first three years of implementation. Please indicate whether enrollments will be cohort-based.

It is projected that approximately 30 students will initially enroll in the program. As the program develops and grows, it is anticipated that an average increase of 15-25 students per year will continue to enroll as the program becomes known.

<table>
<thead>
<tr>
<th>ENROLLMENT PROJECTIONS</th>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Existing</td>
<td>0</td>
<td>22</td>
<td>46</td>
<td>72</td>
</tr>
<tr>
<td>Shifted from other programs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Majors</td>
<td>30</td>
<td>62</td>
<td>96</td>
<td>132</td>
</tr>
</tbody>
</table>

The enrollment projections are not cohort-based. These projections are based on survey results which indicate that approximately 30 students will enroll in the first two years of the program.

13. Faculty

a. Provide an inventory of faculty directly involved with the administration of the program. For each faculty member, provide the following information:

Appendix C contains all the resumes of the entire full-time faculty who could contribute to the instructional load of offering the proposed BSE program.

<table>
<thead>
<tr>
<th>Faculty Name</th>
<th>Rank</th>
<th>Highest Degree</th>
<th>Degrees Earned</th>
<th>Academic Discipline</th>
<th>Current Workload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spyros Andreou</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>B.S., M.S., Ph.D.</td>
<td>Electrical Engineering</td>
<td>130 SCH</td>
</tr>
<tr>
<td>Sylvester Chukwukere</td>
<td>Assistant Professor</td>
<td>M.S.</td>
<td>B.S., M.S.</td>
<td>Electrical Engineering</td>
<td>183 SCH</td>
</tr>
<tr>
<td>Derek B. Dunn</td>
<td>Professor</td>
<td>Ph.D.</td>
<td>B.S., M.S., Ph.D.</td>
<td>Electrical Engineering</td>
<td>99 SCH</td>
</tr>
<tr>
<td>Chris Hintz</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
<td>B.S., M.S., Ph.D.</td>
<td>Chemical Engineering/Marine Science</td>
<td>88 SCH</td>
</tr>
<tr>
<td>Kuppuswamy Jayaraman</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>B.S., M.S., Ph.D.</td>
<td>Environmental Engineering</td>
<td>261 SCH</td>
</tr>
<tr>
<td>Alex Kalu</td>
<td>Professor</td>
<td>Ph.D.</td>
<td>B.S., M.S., Ph.D.</td>
<td>Electrical/Industrial Engineering</td>
<td>179 SCH</td>
</tr>
<tr>
<td>Jonathan P. Lambert</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
<td>B.S., M.S., Ph.D.</td>
<td>Mechanical Engineering</td>
<td>24 SCH</td>
</tr>
</tbody>
</table>
Explanation of how workload will be impacted by the new program: the new program will not impact the workload of the faculty since all the courses that are required for the BET are currently offered.

Expected responsibilities in the program: The Faculty listed above is academically qualified to teach undergraduate level BET courses and advise the BET students.

Total Number of Faculty: 16

b. If it will be necessary to add faculty in order to begin the program, give the desired qualifications of the persons to be added, with a timetable for adding new faculty and plan for funding new positions.

Currently, the Department of Engineering Technology and Mathematics has adequate faculty to deliver the BET program in the first year. It is anticipated as the program grows, one new BET faculty will be added each year starting in the 2nd year of operation. The expertise of future additional faculty will be identified according to the teaching needs of the BET program, department, and college. The desired qualifications of the new faculty include either a Ph.D. in Engineering, Technology Management, Energy and Environmental Systems, Applied Mathematics or related fields. Funding for the new positions can come from reallocation of current faculty positions in the College of Sciences and Technology.

14. Fiscal, Facilities, Enrollment Impact, and Estimated Budget
a. Provide a narrative that explains how current institutional resources will be expended specifically for this program. Provide a narrative that explains how the institution will fiscally support the establishment of the new program through the redirection of existing resources and acquisition of new resources. Indicate whether the institution will submit a request for new funds as part of its budget request. The narrative also needs to explain the basis of the institution’s projections with regard to anticipated EFT, head count, student enrollment, estimated expenditures, and projected revenues.

Savannah State University will support the BET program by sharing the resources of faculty who currently operate SSU’s GTREP, Electronic Engineering Technology, Computer Science Technology, Civil Engineering Technology, Mathematics, Marine Science, Physics program to the BET program. Also, due to substantial increase in the student body of the College of Sciences and Technology over 10% per year for the past two years, SSU will continue to reallocate resources and hire faculty to support the new BET program. Savannah State University will not be submitting a request for new funds to support this program.

<table>
<thead>
<tr>
<th>I. ENROLLMENT PROJECTIONS</th>
<th>First Year FY</th>
<th>Second Year FY</th>
<th>Third Year FY</th>
<th>Fourth Year FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Majors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shifted from other programs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New to the institution</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Total Majors</td>
<td>30</td>
<td>62</td>
<td>96</td>
<td>132</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Sections Satisfying Program Requirements</th>
<th>First Year FY</th>
<th>Second Year FY</th>
<th>Third Year FY</th>
<th>Fourth Year FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously existing</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>New</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Total Program Course Sections</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit Hours Generated by Those Courses</th>
<th>First Year FY</th>
<th>Second Year FY</th>
<th>Third Year FY</th>
<th>Fourth Year FY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing enrollments</td>
<td>648</td>
<td>1489</td>
<td>1500</td>
<td>2160</td>
</tr>
<tr>
<td>New enrollments</td>
<td>432</td>
<td>743</td>
<td>1380</td>
<td>1800</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>1080</td>
<td>2232</td>
<td>2880</td>
<td>3960</td>
</tr>
</tbody>
</table>

| DEGREES AWARDED                          | 0             | 0              | 0            | 15            |

<table>
<thead>
<tr>
<th>II. EXPENDITURES</th>
<th>EFT Dollars</th>
<th>EFT Dollars</th>
<th>EFT Dollars</th>
<th>EFT Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel – reassigned or existing positions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>$75,000</td>
<td>$37,500</td>
<td>$18,750</td>
<td>$9,375</td>
</tr>
<tr>
<td>Part-time Faculty</td>
<td>$12,000</td>
<td>$6,000</td>
<td>$3,000</td>
<td>$0</td>
</tr>
<tr>
<td>Graduate Assistants</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrators</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Support Staff</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Fringe Benefits</td>
<td>$23,250</td>
<td>$11,625</td>
<td>$5,812</td>
<td>$2,906</td>
</tr>
<tr>
<td>Other Personnel Costs</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total Existing Personnel Costs</td>
<td>$110,250</td>
<td>$55,125</td>
<td>$27,562</td>
<td>$12,281</td>
</tr>
</tbody>
</table>

EXPENDITURES (Continued)

Personnel – new positions
<table>
<thead>
<tr>
<th>Category</th>
<th>2023-2024</th>
<th>2024-2025</th>
<th>2025-2026</th>
<th>2026-2027</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>$61,000</td>
<td>$61,000</td>
<td>$61,000</td>
<td>$61,000</td>
</tr>
<tr>
<td>Part-time Faculty</td>
<td>$24,000</td>
<td>$24,000</td>
<td>$24,000</td>
<td>$24,000</td>
</tr>
<tr>
<td>Graduate Assistants</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Administrators</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Support Staff</td>
<td>$35,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Fringe Benefits</td>
<td>$29,760</td>
<td>$18,910</td>
<td>$18,910</td>
<td>$18,910</td>
</tr>
<tr>
<td>Other personnel costs</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total New Personnel Costs</strong></td>
<td>$149,760</td>
<td>$103,910</td>
<td>$103,910</td>
<td>$103,910</td>
</tr>
<tr>
<td>Start-up Costs (one-time expenses)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library/learning resources</td>
<td>$5,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Equipment</td>
<td>$50,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Other</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Physical Facilities: construction or major renovation</td>
<td>$100,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total One-time Costs</strong></td>
<td>$155,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Operating Costs (recurring costs – base budget)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies/Expenses</td>
<td>$600</td>
<td>$600</td>
<td>$600</td>
<td>$600</td>
</tr>
<tr>
<td>Travel</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td>Equipment</td>
<td>$500</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Library/learning resources</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td>Other</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Recurring Costs</strong></td>
<td>$2,100</td>
<td>$1,600</td>
<td>$1,600</td>
<td>$1,600</td>
</tr>
<tr>
<td><strong>GRAND TOTAL COSTS</strong></td>
<td>$306,860</td>
<td>$159,035</td>
<td>$133,072</td>
<td>$118,331</td>
</tr>
</tbody>
</table>
### III. REVENUE SOURCES

#### Source of Funds

<table>
<thead>
<tr>
<th>Source of Funds</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reallocation of existing funds</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>New student workload</td>
<td>$64,110</td>
<td>$132,494</td>
<td>$205,152</td>
<td>$282,084</td>
</tr>
<tr>
<td>New Tuition</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Federal funds</td>
<td>$12,822</td>
<td>$26,498</td>
<td>$41,030</td>
<td>$56,416</td>
</tr>
<tr>
<td>Other grants</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Student fees</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Other fees</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>New state allocation requested for budget hearing</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

#### Nature of Funds

<table>
<thead>
<tr>
<th>Nature of Funds</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base budget</td>
<td>$76,932</td>
<td>$158,992</td>
<td>$246,155</td>
<td>$338,500</td>
</tr>
<tr>
<td>One-time funds</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**GRAND TOTAL REVENUES**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$76,932</td>
<td>$158,992</td>
<td>$246,155</td>
<td>$338,500</td>
</tr>
</tbody>
</table>
Facilities Information for New Academic Programs

Proposed Location for the Program: **College of Science and Technology’s Hubert Technical Science Center and Herty Hall**

Floor area required for the program (gross and net square feet): **97,851 Square Feet**

The building square foot for the Hubert Technical Science Center is 85,209 and the square footage for Herty Hall is 12,642.

Type of spaces required:

- Number of classrooms: **12**
- Number of labs: **11**
- Number of offices: **25**
- Other spaces: __________

Place an “X” beside the appropriate selection:

- **X** Existing facility will be used as is (area square footage): 97,851 Square Feet
- __________ Existing facility will require modification (area square footage):

  - Projected renovation cost:
  - Estimated relocation cost:
  - Total funding required:
  - Source of Funding:

- __________ Construction of new facilities will be required (area square footage):

  - Estimated construction cost:
  - Estimated total project cost:
  - Proposed source of funding:

List any infrastructure impacts that the program will have (i.e., parking, power, HVAC, etc.) and indicated estimated cost and source of funding.

Other comments:

The College of Sciences and Technology at Savannah State University is slated by the BOR to receive approximately $35 million dollars in FY2014 to build a new Science and Engineering facility. Once this facility is constructed, it will add an additional 130,676 GSF.

*Note: A system office Facilities Project Manager (through the Office of Facilities) may contact you with further questions separate from the review of the new academic program.*
Appendix A
### Existing Courses

#### CHEMISTRY

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2501</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>The first of two semester introductory courses covering the principles of organic chemistry. The properties, preparation, reactions, and interrelationships of the important classes of organic chemistry. (3-0-3) Prerequisite: CHEM 1212</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2501L</td>
<td>Organic Chemistry I Lab</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Laboratory techniques in organic chemistry; synthesis and reactions of organic compounds and spectroscopic analysis. Lab taken concurrently with CHEM 2501 (0-4-1) Prerequisite: CHEM 1212L; Co requisite: CHEM 2501</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CHEM 3101</td>
<td>Analytical Chemistry</td>
<td>3</td>
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<tr>
<td></td>
<td>Principles and techniques in volumetric and gravimetric determinations. Principles of chemical equilibria using chromatographic, spectrophotometric, and potentiometric methods of analysis. (3-0-3) Prerequisite: CHEM 1212</td>
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<tr>
<td>CHEM 3101L</td>
<td>Analytical Chemistry Lab</td>
<td>1</td>
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<tr>
<td></td>
<td>Lab taken concurrently with CHEM 3101. (0-4-1) Prerequisite: CHEM 1212L; Co requisite: CHEM 3101</td>
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<th>Course Code</th>
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<tbody>
<tr>
<td>CHEM 3401</td>
<td>Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Properties of gases, thermodynamics, thermo-chemistry, physical transformation and equilibrium, phase diagrams, chemical equilibrium. (3-0-3) Lab taken concurrently with CHEM 3401. (0-4-1) Prerequisites: MATH 2111, PHYS 1112K or 2212 Co requisite: CHEM 3401</td>
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<tr>
<td>CHEM 3401L</td>
<td>Physical Chemistry I Lab</td>
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<tr>
<td></td>
<td>Equilibrium electrochemistry, chemical kinetics, reaction dynamics, quantum theory, atomic and molecular structure, modern spectroscopy. (3-0-3) Prerequisite: CHEM 1212L; Co requisite: CHEM 3401</td>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CHEM 3411</td>
<td>Physical Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Equilibrium electrochemistry, chemical kinetics, reaction dynamics, quantum theory, atomic and molecular structure, modern spectroscopy. (3-0-3) Prerequisite: CHEM 3401</td>
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<tr>
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<tbody>
<tr>
<td>CHEM 3411L</td>
<td>Physical Chemistry II Lab</td>
<td>1</td>
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<tr>
<td></td>
<td>Lab taken concurrently with CHEM 3411. (0-4-1) Prerequisite: CHEM 3401L; Co requisite: CHEM 3411</td>
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#### CHEMICAL ENGINEERING TECHNOLOGY

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<tr>
<th>Course Code</th>
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<tr>
<td>CHET 3201K</td>
<td>Material/Energy Balances</td>
<td>4</td>
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<tr>
<td></td>
<td>This course covers the quantity measurement of chemical engineering systems. A study of conservation equations, stoichiometry, equilibrium relations, and phase change analysis. Recycle and multiple bypass analysis will be presented. Prerequisite: MATH 2101</td>
<td></td>
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</tbody>
</table>
CHET 3221K Mass Transfer 3 Credits
This course covers the principles and designs of equilibrium stage operations. Distillation will be covered in detail for separation and purification of material. Humidification will also be presented. (2-2-3) Prerequisite: CHET 3201

CHET 3301K Transport Phenomena 3 Credits
This course is an introduction to fundamentals of heat, mass and momentum transfer. Multiple effect evaporators will be studied in detail using the principles of transport phenomenon. Scrubbers and packed beds will also be addressed. (2-2-3) Prerequisites: CHET 3201

CHET 3401 Instrumentation 2 Credits
This course presents laboratory experiences in typical chemical engineering systems. Experiments are designed to integrate the subject matter from several subject areas. Prerequisites: MATH 2101

CHET 4101 Chemical Reaction Engineering 3 Credits
This course covers the design of chemical reactors using the principle of Chemical Equilibrium Relations and Kinetic principles. Chemical reactions in gases and liquids, homogeneous, and heterogeneous catalysis, catalyst effectiveness, and roll of transport in kinetics. Factors affecting chemical reaction rates. Prerequisites: CHET 3301K; CHEM 3401

CHET 4201 Process Control 3 Credits
This course covers the application and study of modern control theory to chemical engineering processing. Multivariable control, estimation adaptive control in optimal controls. Prerequisites: PHY 1112K; ENGT 3701; MECT 3411

CHET 4211 Process Design 3 Credits
This course covers the implementation of transport phenomena, process operations, chemical thermodynamic", unit operations, process contractor design, and chemical engineering economics into a comprehensive chemical process plant design project. Prerequisites: CHEM 3401, 3402, CHET 4201; ENGT 2101K

**ELECTRONICS ENGINEERING TECHNOLOGY**

ELET 3101K Electric Circuit I 3 Credits
The concept of current, voltage, power, and resistance. The course deals with units, basic electrical laws, series and parallel circuits, network theorems, and instruments. AC sources, capacitance, inductance, and magnetism are introduced. Circuits are analyzed using PSPICE Laboratory work parallels class work and include the use of various AC and DC instruments. (2-2-3) Prerequisite: MATH 1113

ELET 3701K Data Acquisition System 2 Credits
An introduction to the techniques for interfacing the basic measurement and instrumentation circuitry and systems to monitor physical characteristics such as temperature, pressure, strain,
and distance by using data acquisition system. Typical instrumentation and measuring problems
will be solved in the laboratory. (1-2-2) Prerequisite: ELET 3101K

ENGINEERING TECHNOLOGY

ENGT 2201 Technical Writing 2 Credits
Covers fundamentals of writing technical reports and research papers; illustrating technical data;
making oral presentations; and participating in group communications. Prerequisite: ENGL 1102

ENGT 3101 Statics 3 Credits
A study of applied engineering mechanics of rigid bodies in equilibrium. Analysis of forces,
reactions and moments in various force systems for both two and three dimensional systems.
Determination of centroids of composite area and the moment of inertia will also be studied.
Prerequisites: MATH 2101; PHYS 1111K or PHYS 2211K

ENGT 3201 Applied Mathematics for Engineering Technology 1 Credit
Application of mathematics in the practice of engineering. The course consists of selected topics
in matrix algebra, vectors, calculus, and statistics with emphasis on their application in
engineering technology disciplines. Prerequisite: MATH 2111

ENGT 3301 Quality Control 3 Credits
A study of statistics, probability, control charts for variables and attributes, and acceptance
sampling plans. Prerequisite: ENGT 3201

ENGT 3501 Dynamics 2 Credits
The study of kinematics, the motion and movement of a body in terms of displacement, velocity
acceleration and time; and kinetics, the relations between motion of a body and the forces that
caused the motion. Topics include rectilinear motion as well as curvilinear motion. Prerequisite:
ENGT 3101

ENGT 3601 Strength of Materials 3 Credits
A comprehensive study of the concept of the stress-strain relationship and how this relates to the
design of structural members. Emphasis will be on the stress distribution due to axial tension and
compression, thermal, torsion, and transverse loading and their combinations. Course content
will also include pure bending, transformations of stress, shear and bending moment diagrams,
slope and deflection of beams by integration, and Euler’s formula for columns. Prerequisites:
ENGT 3101 and MATH 2111

ENGT 3701 Engineering Economy 3 Credits
A study of the fundamental concept and analytical tools of engineering economy. The elements
of engineering decision-making process, compound interest and equivalence are examined. This
course also covers present worth, uniform annual cost, rate of return and depreciation method as
well as income taxes to help make the correct engineering business decision. Prerequisites:
MATH 1113, permission of the instructor

MECHANICAL ENGINEERING TECHNOLOGY
MECT 3101K Engineering Materials 3 Credits
This course presents an overview of structures, properties, and applications of metals, polymers, ceramics, and composites commonly used in industry. Problem-solving skills are developed in the areas of materials selection, evaluation, measurement, and testing. (2-2-3) Prerequisites: CHEM 1211, 1211L

MECT 3201K Manufacturing Processes 3 Credits
This course surveys the manufacturing processes and tools commonly used to convert raw materials into finished products. The course includes basic casting and forming process; the basic mechanisms of material removal; measurement; assembly processes. (2-2-3) Prerequisite: MECT 3101K

MECT 3301K Fluid Mechanics 3 Credits
This course covers a study of hydrostatics, viscosity, dimensional constraints and the fluid flow in pipes. (2-2-3) Prerequisite: ENGT 3101

MECT 3401 Dynamics of Machines 3 Credits
This course covers the analysis of motion, velocity, acceleration, and forces in mechanisms and machines. Emphasis is placed on analytical methods suitable for computerized analysis as well as graphical methods for visualization and preliminary design studies. Prerequisite: ENGT 3501

MECT 3411 Thermodynamics 3 Credits
This course covers the fundamentals of thermodynamics. Use of gas tables is introduced. Property relations for ideal gasses and incompressible liquid are introduced. Application of first and second laws to closed and open systems is studied. Heat engines, refrigerators, heat pumps, availability, and irreversibility are studied. Prerequisite: PHYS 1111K or PHYS 2211K

MECT 4101 Machine Design I 3 Credits
This course covers the design of machines and machine elements. The course focuses on power transmission in machines, including gears, belts, pulleys, bearings, lubrication, clutches, brakes, chains, power screws, and gear trains. Stress calculations and material selections are discussed. Prerequisites: MECT 3101K; ENGT 2101K, 3601

MECT 4111 Machine Design II 3 Credits
This course covers further topics on the design of machine elements of structural integrity, reliability, and economy. Applications of advanced topics in strength of materials to machine design. The course includes a major design project. Prerequisites: MECT 4101

MECT 4201K Robotic Applications 3 Credits
This course covers a study of robotic applications in industry. This course is designed to provide students with practical experience on an IBM industrial robot and with its work cells. (1-4-3) Prerequisites: CSCI 1301

MECT 4301K Heat Transfer 3 Credits
This course presents an introduction to heat conduction, convection, and radiation and its applications to engines, heat exchanges, air conditioning, and refrigeration systems. (2-2-3) Prerequisites: MECT 3301K, MECT 3411

MECT 4401K Applied Thermodynamics 3 Credits
This course is a continuation of MECT 3411 with emphasis on applications. Combustion, internal and external combustion cycles, gas turbines, compressors, refrigeration and air conditioning processes are studied. (2-2-3) Prerequisite: MECT 3411

MECT 4701K Heating, Ventilating and Air Conditioning 5 Credits
This course covers the application of the principles of MECT 3301K, MECT 3411, and MECT 4301K to the design and analysis of commercial and residential climate control systems. (3-4-5) Prerequisite: MECT 4301K
Appendix B
CRITERIA FOR ACCREDITING ENGINEERING TECHNOLOGY PROGRAMS

Effective for Evaluations During the 2011-2012 Accreditation Cycle

Incorporates all changes approved by the ABET Board of Directors as of October 30, 2010

ABET, Inc.
111 Market Place, Suite 1050
Baltimore, MD 21202

Telephone: 410-347-7700
Fax: 410-625-2238
E-mail: accreditation@abet.org
Website: www.abet.org
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Criteria for Accrediting Engineering Technology Programs
Effective for Evaluations during the 2011-2012 Accreditation Cycle

Definitions
While ABET recognizes and supports the prerogative of institutions to adopt and use the terminology of their choice, it is necessary for ABET volunteers and staff to have a consistent understanding of terminology. With that purpose in mind, the Commissions will use the following basic definitions:

Program Educational Objectives – Program educational objectives are broad statements that describe what graduates are expected to attain within a few years of graduation. Program educational objectives are based on the needs of the program’s constituencies.

Student Outcomes – Student outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students attain as they progress through the program.

Assessment – Assessment is one or more processes that identify, collect, and prepare data to evaluate the attainment of student outcomes and program educational objectives. Effective assessment uses relevant direct, indirect, quantitative and qualitative measures as appropriate to the objective or outcome being measured. Appropriate sampling methods may be used as part of an assessment process.

Evaluation – Evaluation is one or more processes for interpreting the data and evidence accumulated through assessment processes. Evaluation determines the extent to which student outcomes and program educational objectives are being attained. Evaluation results in decisions and actions regarding program improvement.

The criteria for accreditation are in two sections.

General Criteria – General Criteria apply to all programs accredited by an ABET commission. Each program accredited by an ABET commission must satisfy every Criterion that is in the General Criteria for that commission.

Program Criteria – The Program Criteria provide discipline-specific accreditation criteria. Programs must show that they satisfy all of the specific Program Criteria implied by the program title. Any overlapping requirements need be satisfied only once.

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It is the responsibility of the program seeking accreditation to demonstrate clearly that the program meets the following criteria.

GENERAL CRITERIA

Criterion 1. Students
Student performance must be evaluated. Student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. Students must be advised regarding curriculum and career matters.

The program must have and enforce policies for accepting both new and transfer students, awarding appropriate academic credit for courses taken at other institutions, and awarding appropriate academic credit for work in lieu of courses taken at the institution. The program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements.
2011-2012 Criteria for Accrediting Engineering Technology Programs

Criterion 2. Program Educational Objectives
The program must have published program educational objectives that are consistent with the mission of the institution, the needs of the program’s various constituencies, and these criteria. There must be a documented and effective process, involving program constituencies, for the periodic review and revision of these program educational objectives.

Criterion 3. Student Outcomes
The program must have documented student outcomes that prepare graduates to attain the program educational objectives. There must be a documented and effective process for the periodic review and revision of these student outcomes.

For purposes of this section, broadly defined activities are those that involve a variety of resources; that involve the use of new processes, materials, or techniques in innovative ways; and that require a knowledge of standard operating procedures. Narrowly defined activities are those that involve limited resources, that involve the use of conventional processes and materials in new ways, and that require a knowledge of basic operating processes.

A. For associate degree programs, these student outcomes must include, but are not limited to, the following learned capabilities:

a. an ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities;
b. an ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge;
c. an ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments;
d. an ability to function effectively as a member of a technical team;
e. an ability to identify, analyze, and solve narrowly defined engineering technology problems;
f. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;
g. an understanding of the need for and an ability to engage in self-directed continuing professional development;
h. an understanding of and a commitment to address professional and ethical responsibilities, including a respect for diversity; and
i. a commitment to quality, timeliness, and continuous improvement.

B. For baccalaureate degree programs, these student outcomes must include, but are not limited to, the following learned capabilities:

a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities;
b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;
c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes;
d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives;
e. an ability to function effectively as a member or leader on a technical team;
f. an ability to identify, analyze, and solve broadly-defined engineering technology problems;
g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;
h. an understanding of the need for and an ability to engage in self-directed continuing professional development;
i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;
j. a knowledge of the impact of engineering technology solutions in a societal and global context; and
k. a commitment to quality, timeliness, and continuous improvement.

**Criterion 4. Continuous Improvement**
The program must regularly use appropriate, documented processes for assessing and evaluating the extent to which both the program educational objectives and the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the continuous improvement of the program. Other available information may also be used to assist in the continuous improvement of the program.

**Criterion 5. Curriculum**
The curriculum must effectively develop the following subject areas in support of student outcomes and program educational objectives.

**Mathematics** The program must develop the ability of students to apply mathematics to the solution of technical problems.

a. Associate degree programs will, at a minimum, include algebra and trigonometry at a level appropriate to the student outcomes and program educational objectives.
b. Baccalaureate degree programs will include the application of integral and differential calculus or other mathematics appropriate to the student outcomes and program educational objectives.

**Technical Content** The technical content of the program must focus on the applied aspects of science and engineering and must:

a. Represent at least 1/3 of the total credit hours for the program but no more than 2/3 of the total credit hours for the program.
b. Include a technical core that prepares students for the increasingly complex technical specialties they will experience later in the curriculum.
c. Develop student competency in the use of equipment and tools common to the discipline.

**Physical and Natural Science** The basic science content of the program must include physical or natural science with laboratory experiences as appropriate to the discipline.
The Integration of Content Baccalaureate degree programs must provide a capstone or integrating experience that develops student competencies in applying both technical and non-technical skills in solving problems.

Cooperative Education When used to satisfy prescribed elements of these criteria, credits based upon cooperative/internships or similar experiences must include an appropriate academic component evaluated by the program faculty.

Advisory Committee An advisory committee with representation from organizations being served by the program graduates must be utilized to periodically review the program’s curriculum and advise the program on the establishment, review, and revision of its program educational objectives. The advisory committee must provide advisement on current and future aspects of the technical fields for which the graduates are being prepared.

Criterion 6. Faculty
Each faculty member teaching in the program must have expertise and educational background consistent with the contributions to the program expected from the faculty member. The competence of faculty members must be demonstrated by such factors as education, professional credentials and certifications, professional experience, ongoing professional development, contributions to the discipline, teaching effectiveness, and communication skills. Collectively, the faculty must have the breadth and depth to cover all curricular areas of the program.

The faculty serving in the program must be of sufficient number to maintain continuity, stability, oversight, student interaction, and advising. The faculty must have sufficient responsibility and authority to improve the program through definition and revision of program educational objectives and student outcomes as well as through the implementation of a program of study that fosters the attainment of student outcomes.

Criterion 7. Facilities
Classrooms, offices, laboratories, and associated equipment must be adequate to support attainment of the student outcomes and to provide an atmosphere conducive to learning. Modern tools, equipment, computing resources, and laboratories appropriate to the program must be available, accessible, and systemically maintained and upgraded to enable students to attain the student outcomes and to support program needs. Students must be provided appropriate guidance regarding the use of the tools, equipment, computing resources, and laboratories available to the program.

The library services and the computing and information infrastructure must be adequate to support the scholarly and professional activities of the students and faculty.

Criterion 8. Institutional Support
Institutional support and leadership must be adequate to ensure the quality and continuity of the program.

Resources including institutional services, financial support, and staff (both administrative and technical) provided to the program must be adequate to meet program needs. The resources available to the program must be sufficient to attract, retain, and provide for the continued professional development of a qualified faculty. The resources available to the program must be sufficient to acquire, maintain, and operate infrastructures, facilities and equipment appropriate for the program, and to provide an environment in which student outcomes can be attained.
Objective
An accreditable program in Bioengineering Technology will prepare graduates with the technical skills necessary to enter careers in the design, application, installation, operation and/or maintenance of biomedical equipment. Graduates of associate degree programs typically have strengths in the building, testing, operation, and maintenance of existing biomedical equipment or systems, whereas baccalaureate degree graduates are well prepared for development and implementation of biomedical equipment or systems.

Outcomes
Graduates of associate degree programs must demonstrate knowledge and hands-on competence appropriate to the goals of the program in:

a. the application of circuit analysis and design, analog and digital electronics, microcomputers, bioengineering systems, and safety in the building, testing, operation, and maintenance of biomedical equipment.
b. the applications of physics, chemistry, and biological sciences to building, testing, operation, and maintenance of biomedical equipment in a rigorous mathematical environment at or above the level of algebra and trigonometry.

In addition to the above, graduates of baccalaureate degree programs must demonstrate:

a. the ability to analyze, design, and implement bioengineering systems.
b. the ability to utilize statistics/probability, transform methods, discrete mathematics, or applied differential equations in support of bioengineering systems.
c. an understanding of the clinical application of biomedical equipment.

PROGRAM CRITERIA FOR
CHEMICAL ENGINEERING TECHNOLOGY
AND SIMILARLY NAMED PROGRAMS
Lead Society: American Institute of Chemical Engineers

Applicability
These program criteria apply to engineering technology programs which include chemical and similar modifiers in their titles.

Objective
An accreditable program will prepare graduates with the technical and managerial skills necessary to enter careers in design, manufacturing, marketing, operation, and maintenance in the field of chemical engineering technology. Graduates of baccalaureate degree programs typically have strengths in their knowledge of laboratory applications, design, technical service and supervision. Graduates of associate degree programs typically have strengths in their knowledge of operations, maintenance, and manufacturing.

Outcomes
The field of chemical engineering technology is dependent upon the application of chemistry in an industrial setting. The program must demonstrate that graduates have a working knowledge and ability to solve technical problems by the industrial application of inorganic chemistry, organic chemistry, analytical chemistry; physics, and process stoichiometry. The program must also demonstrate that
graduates of the baccalaureate program possess a deeper and broader knowledge which enables them to solve technical and managerial problems of a more complex nature than those expected of graduates of associate degree programs.

In the field of chemical engineering technology, the operation of chemical processes is extremely important. The program must demonstrate that graduates have the ability to apply:

a. The concepts of chemical engineering unit operations such as mass transfer, heat transfer, distillation, and evaporation to the design, operation, and maintenance of chemical processes,
b. The principles of thermodynamics; process control and instrumentation, computer applications, and materials science to the design, operation, and maintenance of chemical processes.

The nature and level of proficiency must be appropriate to the program objectives.

In the field of chemical engineering technology, the various fields of the chemical sciences and the operation of industrial chemical process equipment are often inextricably intertwined. The program must demonstrate that graduates have the ability to operate, test, and check out chemical process equipment in accordance with appropriate safety, health and environmental considerations and regulations.

PROGRAM CRITERIA FOR
CIVIL ENGINEERING TECHNOLOGY
AND SIMILARLY NAMED PROGRAMS
Lead Society: American Society of Civil Engineers

Applicability
These program criteria apply to engineering technology programs that include civil and similar modifiers in their title.

Objective
An accreditable program in Civil Engineering Technology will prepare graduates with the technical and managerial skills necessary to enter careers in the planning, design, construction, operation or maintenance of the built environment and global infrastructure. Graduates of associate degree programs typically have strengths in their knowledge of the building, testing, operation, and maintenance of infrastructure with the ability to produce and utilize basic construction documents and perform basic analysis and design of system components, whereas baccalaureate degree graduates are prepared to analyze and design systems, specify project methods and materials, perform cost estimates and analyses, and manage technical activities in support of civil projects.

Outcomes
Associate degree programs must demonstrate that graduates are capable of:

a. utilizing graphic techniques to produce engineering documents;
b. conducting standardized field and laboratory testing on civil engineering materials;
c. utilizing modern surveying methods for land measurement and/or construction layout;
d. determining forces and stresses in elementary structural systems;
e. estimating material quantities for technical projects; and
f. employing productivity software to solve technical problems.

Baccalaureate degree programs must demonstrate that graduates, in addition to the competencies above, are capable of:
The program must demonstrate that graduates are proficient in the operation, maintenance, analysis, and management of modern marine power plants and associated marine auxiliary equipment and systems. The program must also demonstrate that graduates are proficient in the use of design manuals, material/equipment specifications, and industry regulations applicable to marine engineering technology. The nature and level of proficiency must be appropriate to the program objectives.

PROGRAM CRITERIA FOR MECHANICAL ENGINEERING TECHNOLOGY AND SIMILARLY NAMED PROGRAMS
Lead Society: American Society of Mechanical Engineers

Applicability
These program criteria apply to engineering technology programs that include mechanical and similar modifiers in their titles.

Objective
An accreditable program in Mechanical Engineering Technology will prepare graduates with knowledge, problem solving ability, and hands-on skills to enter careers in the design, installation, manufacturing, testing, evaluation, technical sales, or maintenance of mechanical systems. Level and scope of career preparation will depend on the degree level and specific program orientation. Graduates of associate degree programs typically have strengths in specifying, installing, fabricating, testing, documenting, operating, selling, or maintaining basic mechanical systems, whereas baccalaureate degree graduates typically have strengths in the analysis, applied design, development, implementation, or oversight of more advanced mechanical systems and processes.

Outcomes
The mechanical engineering technology discipline encompasses the areas (and principles) of materials, applied mechanics, computer-aided drafting/design, manufacturing, experimental techniques/procedure, analysis of engineering data, machine/mechanical design/analysis, conventional or alternative energy system design/analysis, power generation, fluid power, thermal/fluid system design/analysis, plant operation, maintenance, technical sales, instrumentation/control systems, and heating, ventilation, and air conditioning (HVAC), among others. As such, programs outcomes, based on specific program objectives, may have a narrower focus with greater depth, selecting fewer areas, or a broader spectrum approach with less depth, drawing from multiple areas. However, all programs must demonstrate an applied basis in engineering mechanics/sciences.

Associate degree programs must demonstrate that graduates can apply specific program principles to the specification, installation, fabrication, test, operation, maintenance, sales, or documentation of basic mechanical systems depending on program orientation and the needs of their constituents.
Baccalaureate degree programs must demonstrate that graduates can apply specific program principles to the analysis, design, development, implementation, or oversight of more advanced mechanical systems or processes depending on program orientation and the needs of their constituents.
Appendix D
Dr. Spyros Andreou
Savannah State University
Engineering Technology & Mathematics
(912) 358-3276
Email: andreous@savannahstate.edu

Education

MS, University of Arkansas, 1996.
  Major: Applied Mathematics

Ph D, University of Arkansas, 1995.
  Major: Electrical Engineering
  Supporting Areas of Emphasis: Control Theory
  Dissertation Title: Control and Estimation of Uncertain Dynamic Systems Described by Difference Inclusions

MS, University of Arizona, 1990.
  Major: Electrical Engineering
  Supporting Areas of Emphasis: Control Theory

  Major: Electrical Engineering

Professional Positions

Academic - Post-Secondary

Assistant Professor, Savannah State University. (August 6, 2006 - Present).

Assistant Professor, Georgia Southern University. (January 1, 2003 - July 31, 2006).

Licensures and Certifications

Professional Engineers (PE), State of New Mexico (Georgia). (February 16, 1999 - December 31, 2010).

Professional Memberships

Senior Member, Institute of Electrical and Electronics Engineers.

Member, Member of the Institution of Engineering Technology.
Development Activities Attended

Workshop, "2010 Fall Institute," SSU. (August 5, 2010 - August 6, 2010).

Workshop, "Information Literacy," SSU Library. (July 9, 2010 - July 10, 2010).

Workshop, "Distributed Engineering and Technology Education," MSEIP. (May 1, 2010).

Seminar, "Obesity, and the Plot Thickens," RIMI. (April 20, 2010).

Workshop, "Utilizing Existing Campus Resources to Support the QEP.," QEP. (April 20, 2010).


Workshop, "Advising and Mentoring," BEEM and STEM 360 projects. (September 26, 2009).


Awards and Honors

Senior Member, IEEE. (June 15, 2000).

TEACHING

Teaching Experience

Savannah State University

1101, Introduction to Engineering, 1 course.
1371, Computing for Engineers and Scientists, 2 courses.
2030, Introduction to Computer Engineering, 2 courses.
2201, Statics for Engineers, 1 course.
2521, Calculus III for Engineers, 1 course.
3602, Linear and Discrete Mathematics, 1 course.
CSCI 1371, Computing for Engineers & Scientists, 1 course.
ENGR 1101, Introduction to Engineering, 1 course.
ENGR 2030, Introduction to Computer Engineering, 1 course.
ENGR 2040, Circuit Analysis, 1 course.

Non-Credit Instruction
UPWARD BOUND INSTRUCTOR, SUMMER 2010, Department of Education, 40
participants. (June 28, 2010 - July 29, 2010).

Workshop, BEEM Project, 15 participants. (September 19, 2009).

Directed Student Learning

Other, "Exploring the number e," Other (Within Savannah State University). (May 20, 2009 - July 10, 2009).
Advised: Brittany Lewis

Other, "Computing of Easter Sunday by Java Programming," Other (Within Savannah State University). (June 1, 2007 - July 20, 2007).
Advised: Alvita Williams

RESEARCH

Published Intellectual Contributions

Refereed Journal Articles


Conference Proceedings

Equations Using LSIM and ODE 23 MATLAB Functions.. Athens, Georgia: 2010
Peach State LSAMP Alliance National Conference at Athens, Georgia..

Simmons, M., Andreou, S. (2010). Boolean Algebra & If Statements: Tic-Tac-Toe Game
(C#). Athens, Georgia: 2010 Peach State LSAMP Alliance National Conference at
Athens, Georgia..

National Conference.

Atlanta, Georgia: IEEE SoutheastCon 2009.


Using Ellipsoidal Set Theory. Hawaii: CCA/CACSD.


**Journal Articles**


**Presentations Given**

Andreou, S. (Co-Chair), Lambright, J. (Chair), Counselor/Teacher Workshop 2009, "Engineering as a Career," BEEM project/SSU, Savannah. (September 19, 2009).

**Media Contributions**

**Newspaper**

The Savannah Morning News. (October 15, 2009).

**Contracts, Grants and Sponsored Research**

**Grant**

Andreou, Spyros (Co-Principal), Lambright, Jonathan (Principal), Awan, Ijaz (Supporting), "Business Engineering Education Model," Sponsored by NSF, Federal.

**Research in Progress**

"A Matrix Approach to Plotting 2nd Order Differential Equations Using LSIM and ODE23 MATLAB Functions" (Writing Results)

In this research endeavor we first converted a differential equation into a matrix form in order to satisfy the requirements for the functions being used in MATLAB. A second order differential equation is converted into two first order differential equations. This method requires little knowledge of Linear Algebra but gives you a lot of information regarding the system such as stability, physical properties and an
insight of its behavior after some time giving the designer the opportunity to design other parts for the system such as controllers or observers. The classical methods such as Laplace Transforms will not provide all these information. Our case study is a circuit with two energy stored elements (capacitor or inductor) to fully observe the results of the circuit’s second order governing differential equation in either output voltage or current terms. LSIM is a function of MATLAB used to simulate time response of LTI (Linear Time Invariant) models to arbitrary inputs. LSIM plots the time response of the LTI model SYS (System – circuit in our case) to the input signal described by U (input) and T (time). ODE23 is a function of MATLAB used to solve non-stiff differential equations in the first and second order.

"Boolean Algebra & If Statements: Tic-Tac-Toe Game (C#)" (Writing Results)
Tic-Tac-Toe is a fairly simple game that has been around for centuries and will probably never be forgotten. It is usually a pencil game for two players who take turns marking the spaces on a 3 x 3 grid. When put into a computer program the game becomes a complex language coding process. The process involves strenuous problems of how to connect the 3 x 3 grid and make the program correspond with the rules of the Tic-Tac-Toe game. In this research project we used c-sharp programming language to create a Tic-Tac-Toe game. C-sharp is a high level programming language that is very versatile and similar to Java, Visual Basic and C++. The program will perform the procedures of the Tic-Tac-Toe game in real time. Player one picks “x” and the other “o” and if there is no winner the game ends in a draw. The program is coded using a complex design of IF statements and Boolean Algebra. The form in the program is a 3 x 3 board with a restart button. The end result of the computer program is to play against another player and strategize a way to win or draw.

SERVICE

Department Service

Committee Member, Grade Appeal Committee. (May 19, 2010 - June 21, 2010).

Committee Chair, Grade Appeal Committee. (February 1, 2010 - March 1, 2010).

Committee Chair, Grade Appeal Committee. (February 1, 2009 - March 1, 2009).

College Service

Committee Member, PRISM Internal Advisory Committee. (May 12, 2010 - December 12, 2010).

Committee Member, ADHOC Committee- Post Tenure Review Policy Development. (November 11, 2009 - February 17, 2010).
University Service

Committee Member, Faculty Senate. (August 5, 2010 - May 10, 2012).

Committee Member, Fall 2009 Faculty Institute. (May 20, 2009 - July 25, 2009).

Committee Member, Scholarship Committee. (June 25, 2008 - July 25, 2008).

Awards and Honors

Service, Professional

Registered as a Professional Engineer (PE), State of New Mexico. (February 16, 1999).
Professor Sylvester A. Chukwukere  
Savannah State University  
Engineering Technology & Mathematics  
(912) 356-2154  
Email: chukwuks@savannahstate.edu

Education

MS, Tuskegee University, 1984.  
Major: Electrical Engineering

BS, Southern University, 1981.  
Major: Electrical Engineering

Major: Electrical/Electronics

Professional Memberships

None, American society of Engineering Education.

Institute of Electrical and Electronics Engineers.

Development Activities Attended

Monthly Meeting of the IEEE. Savannah Chapter., IEEE.


TEACHING

Teaching Experience

Savannah State University  
ELET 3101, Electric Circuit, 2 courses.
Awards and Honors

Certificate Award (renewable energy workshop), NASA/University of central Florida. (March 20, 1996).

RESEARCH

Presentations Given

Chukwukere, S., North Centrak Sectio Annual Meeting of Engineering Education, "Improving the Quality of Engineering Technology Instruction, Using Pareto Technique," ASEE.

SERVICE

Department Service

Coordinator of the committee, Industrial Advisory Committee for EET program.

Committee Member, Internal Advisory Committee on Targeted Infusion Program. (September 15, 2009 - Present).

College Service

Committee Member, Post-tenure committee.

University Service

Committee Member, University Senate. (August 15, 2007 - Present).

Public Service

A judge at science fair, Savannah arts academy, Savannah, Georgia.

Awards and Honors

Service, University

Dr. Derrek B. Dunn  
Savannah State University  
Dean  
(912) 356-2349  
Email: dunnd@savannahstate.edu

Education

Ph D, Virginia Polytechnic Institute and State University, 1998.  
Major: Electrical Engineering  
Dissertation Title: REAL-TIME IMAGE PROCESSING USING ACOUSTO-OPTIC  
BRAGG DIFFRACTION

MS, Virginia Polytechnic Institute and State University, 1995.  
Major: Mathematics

MS, Virginia Polytechnic Institute and State University, 1993.  
Major: Electrical Engineering

BS, North Carolina Agricultural and Technical State University, 1990.  
Major: Electrical Engineering

BS, North Carolina Agricultural and Technical State University, 1989.  
Major: Mathematics

Professional Positions

Academic - Post-Secondary

Professor, Savannah State University. (August 1, 2009 - Present).

Professor, North Carolina Agricultural and Technical State University. (July 2005 - May 2009).

Associate Professor, North Carolina Agricultural and Technical State University. (July 2002 - June 2005).

Assistant Professor, North Carolina Agricultural and Technical State University. (August 1998 - June 2002).

Assistant Professor, Tuskegee University. (August 1997 - May 1998).

Licenses and Certifications
Certified Technology Manager (CTM), The Association of Technology, Management, and Applied Engineering (ATMAE).

Engineer Class I Certification with Master Endorsement (RF), International Association of Radio and Telecommunication Engineers (iNARTE).

Engineer-in-Training (E.I.T.), State of Virginia.

Professional Memberships


International Association of Radio and Telecommunication Engineers. (2000 - Present).

American Society for Engineering Education. (1999 - Present).


•Institute of Electrical and Electronics Engineers (IEEE). (1998 - Present).

TEACHING

Teaching Experience

Savannah State University
1103, Freshman Year Experience, 1 course.
MATH 1111, College Algebra, 1 course.

RESEARCH

Published Intellectual Contributions

Books


Research in Progress

"Building a joint physics program with University of Georgia" (On-Going)
Dr. Chris J. Hintz  
Savannah State University  
Natural Sciences  
(912) 351-3589  
Email: hintzc@savannahstate.edu

Education

Ph D, University of South Carolina, 2004.  
Major: Marine Sciences  
Supporting Areas of Emphasis: Marine Chemistry, Paleoceanography and Climate Change  
Dissertation Title: Foraminiferal Biomineralization: Culture Experiments on Trace/Minor Element Uptake, Ontogenetic, and Calcification Rate Effects

Major: Chemical Engineering  
Supporting Areas of Emphasis: Environmental Engineering  
Dissertation Title: Algal Turf Scrubber Nitrogen Remediation

Major: Chemical Engineering

Professional Positions

Academic - Post-Secondary

Assistant Professor, Savannah State University. (March 2009 - Present).

Assistant Research Professor, University of South Carolina. (November 2005 - February 2009).

Postdoctoral Researcher, University of South Carolina. (May 2004 - November 2005).

Government

Air Pollution Engineer, Virginia Department of Environmental Quality. (November 1997 - September 1998).

Licensures and Certifications

Scientific Diver, AAUS. (August 2006 - Present).

Advanced Open Water, PADI. (December 2002 - Present).
Nitrox, SSI. (December 2002 - Present).

Open Water Diver, PADI. (April 2001 - Present).

Open Water Diver, YMCA. (February 1988 - Present).

**Professional Memberships**

American Geophysical Union. (November 2002 - Present).


Society for Environmental Toxicology and Chemistry. (November 2000 - October 2003).

**Development Activities Attended**


Workshop, "Ocean Acidification Workshop," National Science Foundation. (October 2007).

**TEACHING**

**Teaching Experience**

**Savannah State University**

MSCI 2010, Introduction to Oceanography, 1 course.
MSCI 3301, Marine Environmental Chemical Analysis, 1 course.
MSCI 4901, Marine Science Senior Seminar, 1 course.
MSCI 4902, Marine Science Research/Internship, 1 course.
MSCI 4903, Marine Science Research/Internship, 1 course.
MSCI 5201, General Oceanography, 2 courses.
MSCI 5402, Marine Science Seminar, 1 course.

**Directed Student Learning**

Advised: Amara Jones

Internship Advisor, "Assessment of Commercial Shrimp Populations (Savannah, GA) Suffering from the Respiratory Infection "Black Gill"," Other (Within Savannah State University). (May 2010 - Present).
Advised: Jesse Weitman
Dissertation Committee Chair, "Marine Algae Cultivation for Biofuels Production," Other (Within Savannah State University). (August 2009 - Present).
Advised: Amber Wilkinson

Master's Thesis Committee Member, "Pathogen Brucella in Bottlenose Dolphin," Other (Within Savannah State University). (May 2009 - Present).
Advised: Kelli Edwards

Supervised Research, Other (Outside Savannah State University). (December 2008 - May 2010).
Advised: Brianna Tracy

Master's Thesis Committee Member, Other (Outside Savannah State University). (August 2004 - December 2007).
Advised: Jessica Blanks

Advised: Katrina Phillips

Advised: Kristie Etson

RESEARCH

Published Intellectual Contributions

Book Chapters


Refereed Journal Articles


Presentations Given


Blanks, J., Chandler, G. T., Hintz, C., e. a., Ocean Sciences Meeting, "Intra- and interspecies variation of DMg and DSr in live benthic foraminiferal calcite and aragonite from the Charleston Bump spanning five years of study.," American Society of Limnology and Oceanography, Orlando. (2008).


Contracts, Grants and Sponsored Research

Contract

Hintz, Chistopher (Principal), Pride, Carol (Co-Principal), "UNEEC - Algae Biofuels Production," Sponsored by NASA - NSTI - UNCF-SP, Federal, $125,000.00. (March 2009 - February 2011).
Grant

Hintz, Christopher (Supporting), Timmons, Maryellen (Principal), "Technological Outdoor Experiential Training for Informal Educators in the Southeast," Sponsored by NOAA, Federal.

Hintz, Christopher (Supporting), Chianelli, Russell (Principal), Pride, Carol (Supporting), "UTEP-Algae Biofuels Consortium," Sponsored by Department of Energy, Federal, $2,286,280.42.

Hintz, Christopher (Principal), Wilkinson, Amber (Co-Principal), "Utilizing High-nutrient Municipal Wastewater Addition to Marine Algae Cultures Grown for Biofuels Production," Sponsored by NASA Earth and Space Science Fellowship, Federal, $28,987.00.

Hintz, Christopher (Supporting), Curran, Carla (Principal), Cox, Tara M (Co-Principal), Pride, Carol (Supporting), Gilligan, Matthew (Supporting), Hoskins, Dionne (Supporting), "Title VII - Coastal Ocean and Underwater Research to Advance Graduate Education (COURAGE)," Sponsored by Department of Education, Federal, $3,000,000.00. (September 2009 - August 2015).

Research in Progress

"Development of Novel Technologies Useful for Sea Turtle Conservation Effort" (On-Going)

"Establishment of transient population effects on nutrient loadings in Savannah River" (Planning)

"NASA / UNCF-SP UNEEC Cluster" (On-Going)
In collaborative effort to develop energy and environmental solutions. SSU contribution is developing advanced culture techniques to produce marine algaes used in biofuels production.

"Novel Techniques for analyzing Seawater Carbonate Chemistry" (On-Going)
Develop a new high-precision technique for measuring total alkalinity in seawater using spectrophotometry. Develop a new high-precision, low volume technique for measuring pCO2 in highly-variable estuarine seawater.

SERVICE

Department Service
Aquarium Science Certificate Program Development. (March 2009 - Present).

Committee Member, Marine Sciences Faculty. (March 2009 - Present).

**College Service**

Committee Member, Academic Advisement Committee.

Committee Member, Tenure, Promotion, Reappointment Policy Development Committee. (December 2009 - Present).

**University Service**

Committee Member, Board of Student Ethics. (August 2009 - Present).
Dr. Kuppuswamy Jayaraman  
Savannah State University  
Engineering Technology & Mathematics  
(912) 358 -3274  
Email: jayaramk@savannahstate.edu

Education

Ph D, Ernst Moritz Arndt University, 1972.  
Major: Environmental Engineering

MS, University of Madras, 1965.  
Major: Public Health Engineering

BS, Sri Venkateswara University, 1961.  
Major: Civil Engineering

Professional Positions

Academic - Post-Secondary

Associate Professor, Savannah State University. (August 15, 1996 - Present).

Acting Dean, Savannah State University. (July 1, 2008 - July 15, 2009).

Chair, Department of Engineering Technology, Savannah State University. (August 15, 1999 - July 15, 2008).

Acting Dean, Savannah State University. (May 1, 2001 - June 1, 2004).

Professional Memberships

Engineers Without Borders - USA. (May 1, 2008 - Present).

American Society of Engineering Education. (June 1, 1998 - Present).

American Society of Civil Engineers. (May 1, 1981 - Present).

Chartered Institution of Water & Environmental Management, UK. (May 1, 1981 - May 1, 2002).

Royal Society of Health, UK. (May 1, 1981 - May 1, 2002).

TEACHING
Teaching Experience

Savannah State University
CIVT 3101, Surveying, 1 course.
CIVT 3211, Construction Estimating & Management, 1 course.
CIVT 3301, Hydraulics & Engineering Hydrology, 1 course.
CIVT 4201, Environmental Engineering, 1 course.
CIVT 4211, Environmental Pollution Control, 2 courses.
CIVT 4301, Urban Planning, 1 course.

RESEARCH

Contracts, Grants and Sponsored Research

Grant

Sivapatham, Paramasivam (Principal), Jayaraman, Kuppuswamy (Co-Principal),
"Research, Education and Experiential Learning Program for Environmentally
Sustainable Integrated Nutrient Management Practices," Sponsored by United States
Department of Agriculture - International Science and Education Program, Federal,
$150,000.00.

Sivapatham, Paramasivam (Co-Principal), Jayaraman, Kuppuswamy (Principal),
"Scholarships for Training in Alternative Route to Teaching (START)," Sponsored
by National Science Foundation, Federal, $1,199,986.00.

Mustafa, Mohamad (Supporting), Lemma, Mulatu (Principal), Jayaraman, Kuppuswamy
(Co-Principal), Sivapatham, Paramasivam (Co-Principal), Lambright, Jonathan (Co-
Principal), "PRISM Building Undergraduate Innovations in Lower Divisions in

Jayaraman, Kuppuswamy (Principal), "Peach State Louis Stokes Alliance for Minority
Participation (PSLSAMP)," Sponsored by NSF, Federal, $500,000.00. (October 15,
2005 - October 15, 2010).

Jayaraman, Kuppuswamy (Principal), "Targeted Infusion Grant," Sponsored by NSF,
Federal, $149,967.00. (September 1, 2006 - August 1, 2008).
Alex Kalu
Savannah State University
Engineering Technology & Mathematics
(912) 358-4285
Email: kalua@savannahstate.edu

Education

Ph D, Louisiana State University, 1985.
Major: Electrical/Industrial Engineering - ES
Supporting Areas of Emphasis: Nuclear Science, Quantitative Business Analysis
Dissertation Title: An Engineering Approach to Model Order Reduction and Its
Application to Controller Design

MS, Louisiana Tech University, 1982.
Major: Electrical Engineering
Supporting Areas of Emphasis: Industrial Engineering
Dissertation Title: Polyphase Induction Motor Speed Control by Solid-State
Electronics

BS, The University of Texas, 1980.
Major: Electrical Engineering

NCE (Equivalent to BA) From The University of Nigeria Institute of Education, Alvan
Major: Mathematics/Physics
Supporting Areas of Emphasis: Education

Professional Memberships

Institute of Electronics and Electrical Engineers. (January 1, 1986 - Present).

IEEE Automatic Control Society. (September 1, 1987 - September 1, 2007).

American Society of Engineering Educators. (September 1, 1986 - September 1, 2007).

IEEE Circuit and Systems Society. (September 1, 1986 - September 1, 2007).

IEEE Power Society. (September 1, 1986 - September 1, 2007).

IEEE Reliability Society. (September 1, 1986 - September 1, 2007).

Development Activities Attended


TEACHING

Non-Credit Instruction

Continuing Education, Engineering Information Foundation (EiF), 12 participants.

Seminar, Department of Education, 10 participants. (March 19, 2009).

Directed Student Learning

Advised: Therin Young

Advised: Zackry Gelow

Advised: Asha Richards

Advised: Thomas Stafford

RESEARCH

Contracts, Grants and Sponsored Research

Grant
Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), Kalu, Alex (Co-Principal), "STEM Regional Education In Engineering And Technology," Sponsored by NSF, Federal, $1,198,610.00.

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), Kalu, Alex (Co-Principal), "Stem Regional Education in Engineering and Technology in Georgia and South Carolina," Sponsored by NSF, Federal, $1,194,675.00.

SERVICE

Consulting

For Profit Organization, TOBY ENERGY GROUP, LLC, Longwood, Florida. (November 5, 2009 - Present).

Academic, Eduardo Mondlane University, Maputo, Mozambique. (March 1, 2005 - Present).


Dr. Jonathan P. Lambright  
Savannah State University  
Engineering Technology & Mathematics  
(912) 358-3267  
Email: lambrij@savannahstate.edu

Education

Ph D, Georgia Institute of Technology, 1996.  
Major: Mechanical Engineering  
Supporting Areas of Emphasis: CAD/CAM  
Dissertation Title: Intelligent Design of Flat Composite Panels Using Knowledge and Case Based Reasoning

BS, North Carolina A&T State University, 1995.  
Major: Mechanical Engineering

MS, Georgia Institute of Technology, 1993.  
Major: Mechanical Engineering

Major: Mechanical Engineering

Professional Positions

Academic - Post-Secondary

Associate Professor, Savannah State University. (August 1, 2002 - Present).

Government

Marine Mechanical Engineer, Department of Defense / Chas Naval Shipyards. (June 1985 - August 1988).

Licensures and Certifications

EIT: Engineer In Training, NSPE. (April 1990 - Present).

Professional Memberships

American Society For Engineering Education.

RESEARCH
Published Intellectual Contributions

Refereed Journal Articles


Conference Proceedings


Presentations Given

Andreou, S. (Co-Chair), Lambright, J. (Chair), Counselor/Teacher Workshop 2009, "Engineering as a Career," BEEM project/SSU, Savannah. (September 19, 2009).

Contracts, Grants and Sponsored Research

Grant

Andreou, Spyros (Co-Principal), Lambright, Jonathan (Principal), Awan, Ijaz (Supporting), "Business Engineering Education Model," Sponsored by NSF, Federal.

Mustafa, Mohamad (Supporting), Lemma, Mulatu (Principal), Jayaraman, Kuppuswamy (Co-Principal), Sivapatham, Paramasivam (Co-Principal), Lambright, Jonathan (Co-Principal), "PRISM Building Undergraduate Innovations in Lower Divisions in STEM," Sponsored by NSF, Federal, $1,500,000.00. (2009 - 2014).

Sivapatham, Paramasivam (Supporting), Chetty, Chello (Co-Principal), Lambright, Jonathan (Co-Principal), Johnson, Johnny (Co-Principal), "Minority Access for Graduate Education and Careers in STEM Program Plus: Strengthening / sustaining the Culture of Excellence for STEM Education at SSU," Sponsored by National Science Foundation, Federal, $2,063,394.00. (October 1, 2009 - September 30, 2014).

Sivapatham, Paramasivam (Co-Principal), Lemma, Mulatu (Principal), Lambright, Jonathan (Co-Principal), "PRISM Building Undergraduate Innovations in Lower Divisions in STEM," Sponsored by National Science Foundation, Federal, $1,499,999.00. (September 1, 2009 - August 31, 2014).
Lemma, Mulatu (Principal), Lambright, Jonathan (Co-Principal), Sivapatham, Paramasivam (Co-Principal), "PRISM Building Undergraduate Innovations in Lower Divisions in STEM," Sponsored by National Science Foundation, Federal. (September 1, 2009 - August 31, 2014).

Research in Progress

"Building a joint physics program with University of Georgia" (On-Going)

Awards and Honors

Service, University

Mentor Award, HBCU-UP Program. (October 2006).
Pengfei Li  
Savannah State University  
Engineering Technology & Mathematics  
(912) 356-2480  
Email: lipengf@savannahstate.edu

Education

Ph D, The Ohio State University, 2007.  
Major: Physics  
Supporting Areas of Emphasis: Physics education research

MS, the Ohio State University, 2002.  
Major: Electrical Engineering  
Supporting Areas of Emphasis: Digital and analog circuit design

BS, University of Science and Technology of China, 2000.  
Major: Chemical Physics  
Supporting Areas of Emphasis: Combustion Chemistry

Professional Positions

Academic - Post-Secondary

Assistant Professor, Savannah State University. (August 1, 2007 - Present).

Professional Memberships

American Physical Society. (September 2003 - Present).

American Association of Physics Teachers. (April 2003 - Present).

Development Activities Attended


Conference Attendance, "Southern Atlantic Coast Section of the American Association of Physics Teachers Conference," Augusta State University. (October 2009).

Workshop, "SSU Grant Writing Workshop," Savannah State University. (September 2009).
Workshop, "OSRA Grants Writing Training Workshop," Savannah State University. (July 2009).


Workshop, "SSU Grant Writing Workshop," Savannah State University. (April 2009).

Conference Attendance, ""Day of Science" trip," Oak Ridge National Laboratory. (October 2007).

Awards and Honors

Excellent Student Leader, University of Science and Technology of China. (March 1, 1997).

TEACHING

Teaching Experience

Savannah State University
1111, Introductory Physics 1, 1 course.
PHYS 1111, Introductory Physics 1, 1 course.
PHYS 1112, Introductory Physics 2, 2 courses.

Awards and Honors

Excellent Teaching Assistant Award, Department of Physics, the Ohio State University. (May 10, 2007).

RESEARCH

Published Intellectual Contributions

Refereed Journal Articles


Conference Proceedings


**Presentations Given**


Li, P. (Author & Presenter), Southern Atlantic Coast Section of the American Association of Physics Teachers Conference, "Using clickers at Savannah State University," Augusta State University, Augusta, GA. (October 2009).

Li, P. (Author & Presenter), USG annual physics and astronomy meeting, "Using of clickers in Historical Black College and Universities," Macon State University, Macon, GA. (April 2009).

**Media Contributions**

**Internet**

Science Daily. (July 18, 2008).

**Magazine**

Savannah State University Magazine. (April 2009).

**Newspaper**

Savannah Morning News. (May 2010).

**Contracts, Grants and Sponsored Research**

**Grant**

Li, Pengfei (Co-Principal), "Developing a professional master degree at Savannah State University," Sponsored by Savannah State University, State, $800,000.00. (September 2010 - June 2013).

Li, Pengfei (Principal), "Developing an In-class Electronic Polling System at Savannah State University," Sponsored by Savannah State University, Savannah State University, $10,700.00. (February 2009 - February 2011).
Li, Pengfei (Co-Principal), "Develop and Assess The Ohio State Standardized Clicker System," Sponsored by Ohio State University, Local, $84,796.00. (September 2005 - June 2007).

Awards and Honors

Graduate Fellowship, the Ohio State University. (August 1, 2000).

Di Ao Scholarship, University of Science and Technology of China. (May 1, 1997).

Research in Progress

"Building a joint physics program with University of Georgia" (On-Going)

"Developing a Scientific Reasoning Test" (On-Going)

SERVICE

Department Service

Committee Member, Teaching Load. (September 2008 - June 2009).

College Service

Committee Member, New Building Committee. (February 2010 - Present).

Committee Chair, the Engineering Physics development committee. (January 2010 - Present).

Committee Member, Committee of Professional Master Program development. (October 2009 - Present).

Committee Chair, Committee for a joint physics program with UGA. (September 2009 - Present).
Dr. Ying Liu  
Savannah State University  
Engineering Technology & Mathematics  
(912) 358-3278  
Email: liuy@savannahstate.edu

Education

MS, University of South Carolina, 1990.  
   Major: Computer Science  
   Dissertation Title: Fractal Image Compression

   Major: Physics  
   Dissertation Title: Electromagnetic Weak Radiation Decay

   Major: Physics  
   Dissertation Title: NA

BS, Lanzhou University, 1982.  
   Major: Nuclear Physics  
   Dissertation Title: Non-Destructive Measurement via Gamma Ray

Licensures and Certifications

MCDBA (Database Administrator), Microsoft. (November 3, 2000 - Present).

MCSE+MCDBA, Microsoft. (November 3, 2000 - Present).

MCSE (Microsoft Certified System Engineer), Microsoft. (September 1, 2000 - Present).

Professional Memberships

IEEE. (December 1990 - Present).

Development Activities Attended

Tutorial, "Microsoft Certification Courses # 059, 067, 073, 068, 058, 087, 029,"  

Awards and Honors

International WHO'S WHO among Intellectuals, International Biographical Center,  


**RESEARCH**

**Published Intellectual Contributions**

**Conference Proceedings**


**Presentations Given**


**Contracts, Grants and Sponsored Research**

**Grant**


**Awards and Honors**


**Research in Progress**

"Image Recognition" (On-Going)

"Image Tagging" (On-Going)

"Video Recognition" (On-Going)
SERVICE

University Service

   Committee Member, ReWrite.

   Committee Member, Technology Fee. (August 15, 2009 - Present).

Awards and Honors

   Service, Professional

Dr. Mohamad A. Mustafa  
Savannah State University  
Engineering Technology & Mathematics  
(912) 358-3272  
Email: mustafam@savannahstate.edu

Education

Ph D, Wayne State University, 1994.  
Major: Civil Engineering; Major in Structural Engineering  
Dissertation Title: Dissertation Title: Methodology of Inductive Learning: Structural Engineering Application

MS, Wayne State University, 1985.  
Major: Civil Engineering with specialization in Structure  
Supporting Areas of Emphasis: Soil Mechanics

BS, Wayne State University, 1983.  
Major: Civil Engineering

Professional Positions

Academic - Post-Secondary

Professor & Coordinator, Savannah State University, Savannah, GA  31404. (August 2009 - Present).

Associate Professor & Coordinator, Savannah State University, Savannah, GA  31404. (June 2006 - August 2009).

Assistant Professor& Coordinator, Savannah State University, Savannah, GA  31404. (September 1994 - June 1998).

Part Time Faculty, Department of Civil Engineering, Wayne State University, Detroit, MI  48202. (December 1987 - May 1989).

Graduate Teaching Assistant II, Department of Civil Engineering, Wayne State University. (January 1986 - May 1989).

Graduate Teaching Assistant I, Department of Civil Engineering, Wayne State University. (January 1984 - December 1985).

Professional

Consultant, Savannah State University NSF Project. (May 27, 2007 - August 1, 2007).


Licensures and Certifications

Using Embedded Assessment to Improve Student Learning and Teaching Effectiveness, Savannah Technical Institute. (December 5, 2008 - Present).


Academic Advisement for Student Success and Retention Workshop, Savannah State University. (April 21, 2006 - Present).

STAAD Certified Engineer Training, Bently. (December 3, 2005 - Present).

Web CT Course Designer (How to Build a Course) Workshop, Savannah State University. (May 30, 2005 - Present).

Alternative Energy Technology Innovations Conference, Georgia Institute of Technology. (May 12, 2005 - Present).

The ETS Workshop on Assessment, Savannah State University. (January 22, 2004 - Present).

Web CT Course Designer (How to Build a Course) Workshop, Savannah State University. (May 30, 2003 - Present).

Web CT Vista As A Student Workshop, Savannah State University. (May 28, 2003 - Present).

Writing Across The Curriculum (Facilitator: Professor Stephani Hewitt of Education at The Citadel), Savannah State University. (2003 - Present).

Banner/Paws Workshop, Savannah State University. (2002 - Present).

Writing Across The Curriculum (Facilitator: Professor Patricia Williams of Sam Houston State University), Savannah State University. (2002 - Present).

Communication Across the Curriculum Workshop, Savannah State University. (March 29, 2001 - Present).

Communications 101 & Internet 103, Savannah State University. (March 1996 - Present).
Professional Memberships

Expert System Committee.

Savannah Economic Development Authority.

Treasurer of the Instrumentation Division, American Society for Engineering Education. (2009 - Present).

American Society of Civil Engineers. (1981 - Present).

Awards and Honors

Chi Epsilon Honor Society, Chi Epsilon Honor Society. (1983).

Dean's Honor List, Wayne State University - College of Engineering. (1983).


Dean's Honor List, Wayne State University - College of Engineering. (1982).

Tau Beta Pi Honor Society, Tau Beta Pi Honor Society. (1982).


TEACHING

Awards and Honors


RESEARCH

Presentations Given


Mustafa, M. (Author & Presenter), Yousuf, A. (Author & Presenter), Share best teaching and learning practices through faculty and student engagement at SSU, "Utilization of WebCT in Course Development," Savannah State University, Savannah, GA. (June 2006).


Contracts, Grants and Sponsored Research

Contract


Grant

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), Kalu, Alex (Co-Principal), "STEM Regional Education In Engineering And Technology," Sponsored by NSF, Federal, $1,198,610.00.

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), Kalu, Alex (Co-Principal), "Stem Regional Education in Engineering and Technology in Georgia and South Carolina," Sponsored by NSF, Federal, $1,194,675.00.

Mustafa, Mohamad (Supporting), Lemma, Mulatu (Principal), Jayaraman, Kuppuswamy (Co-Principal), Sivapatham, Paramasivam (Co-Principal), Lambright, Jonathan (Co-

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $31,500.00. (June 2010 - August 2010).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $30,000.00. (June 2009 - August 2009).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $31,500.00. (June 2008 - August 2008).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "An Integrated Project-Based Course in Mathematics and Engineering," Sponsored by NCIIA, Other, $7,500.00. (2007 - 2008).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Development of Animatronics and Emotional Face Displays of Robots," Sponsored by CASTME, Title III at Savannah State University, Savannah State University, $4,000.00. (2006 - 2007).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $32,500.00. (June 2007 - August 2007).

**SERVICE**

**Department Service**

Committee Member, Mathematics Search Committee. (2010 - Present).

Committee Member, Internal Advisory Committee (IAC) for the Minority Science and Engineering Improvement Program (MSEIP). (September 2009 - Present).

Committee Chair, Engineering Technology Department Curriculum and Accreditation Review Committee. (August 2008 - Present).
Committee Member, Industrial Advisory Committee for the Civil Engineering Technology Program. (September 1995 - Present).

Civil Engineering Technology Coordinator. (September 1994 - Present).

**College Service**

Committee Member, Bachelors in Facilities and Construction Management Development Committee. (2010 - Present).

Committee Member, New Engineering Technology Building Committee. (2010 - Present).

Committee Member, COST General Education Outcome Committee. (2009 - Present).

Committee Chair, COST Tenure, Promotion, and Reappointment Policy Development. (2009 - Present).

Committee Member, Coordinator’s Committee. (September 2007 - Present).

Committee Member, COST College Honor’s convocation committee. (2007 - Present).

Committee Chair, COST Personnel Committee. (January 2010 - April 2010).

Committee Member, COST Personnel Committee. (September 2009 - December 2009).

Committee Member, Dean’s Advisory board committee. (2004 - 2009).

Committee Member, Master’s in Technology Education and Engineering Technology Management Committee. (2005 - 2006).

**University Service**

Committee Member, New Engineering Technology Building Committee. (2010 - Present).

Committee Member, Screening/Interview Committee For Director of Academic Assessment. (2010 - Present).

Committee Member, Institution General Education Committee. (2009 - Present).

Committee Member, Institution President's Distinguished Faculty Award Committee. (2009 - Present).

Committee Member, Institution Program Review Committee. (2009 - Present).
Committee Member, Faculty Handbook Committee. (2008 - Present).

Committee Member, SSU SACS Effectiveness Committee. (2008 - Present).

University Senate Service, Faculty Senator. (2008 - 2010).

Committee Member, Dean’s Search Committee of the Schools of Sciences and Technology. (2008 - 2009).


Committee Member, Institution Admission Appeals Committee. (2006 - 2007).

Faculty Mentor, Undeclared academic advisor through the AAMP. (1998 - 2007).

Professional Service

Officer, Treasurer, American Society of Engineering Education. (2009 - Present).

Consulting

Dr. Hyounkyun Oh
Savannah State University
Engineering Technology & Mathematics
(912) 358-4301
Email: hoh@savannahstate.edu

Education

Ph D, University of Iowa, 2005.
Major: Applied Mathematics
Dissertation Title: SPARK methods for mixed index DAEs of index 2 & 4 and their applications in mechanics

MS, University of Iowa, 2004.
Major: Mechanical Engineering
Supporting Areas of Emphasis: Molecular dynamics
Dissertation Title: Energy conservative numerical integrators for a Lennard-Jones potential

MS, University of Iowa, 2003.
Major: Applied Mathematics
Supporting Areas of Emphasis: Mechanical Engineering

MS, Chungnam National University, 1997.
Major: Mathematics
Supporting Areas of Emphasis: Numerical Analysis in PDE
Dissertation Title: Analysis of Chebyshev-Legendre methods for some PDEs

BS, Chungnam National University, 1995.
Major: Mathematics

Development Activities Attended


Conference Attendance, "Eagle Undergraduate Mathematics Conference," Georgia Southern University. (February 22, 2010).

Workshop, "BEEM project," Center for Academic Success Advisement in SSU. (June 24, 2009 - July 8, 2009).


TEACHING

Teaching Experience

Savannah State University
  MATH 1111, College Algebra, 12 courses.
  MATH 1113, Precalculus, 11 courses.
  MATH 2101, Calculus I, 4 courses.
  MATH 2111, Calculus II, 6 courses.
  MATH 2121, Calculus III, 2 courses.
  MATH 2301, Intro. Discrete Math, 1 course.
  MATH 2501, Calculus I for engineers, 3 courses.
  MATH 2511, Calculus II for engineers, 1 course.
  MATH 3301, Differential Equations, 4 courses.
  MATH 3401, Modern Geometry, 1 course.
  MATH 3501, Numerical Analysis, 2 courses.
  MATH 4201, Analysis I, 1 course.
  MATH 4221, Complex Analysis, 1 course.
  MATH 4601, Mathematical Research, 1 course.
  MATH 4901, Senior Seminar, 2 courses.

Directed Student Learning

Supervised Research, "Development of Bijection," Other (Within Savannah State University). (March 1, 2010 - Present). Advised: Terry Woodford

Supervised Research, "What is the winning number?," Other (Within Savannah State University). (March 1, 2010 - May 9, 2010). Advised: Ezinne Igbonagwam


Supervised Research, "Simulation of Tennis Player's Swing Arm Motion," Other (Within Savannah State University). (January 1, 2006 - August 1, 2006). Advised: Onaje Lewis

Supervised Research, "Road of the Ring," Other (Within Savannah State University). (January 1, 2006 - August 1, 2006). Advised: Timothy Ransom
RESEARCH

Published Intellectual Contributions

Refereed Journal Articles


Conference Proceedings


Presentations Given


Oh, H. (Author & Presenter), BEEM Project Workshop, "Magical Mathematics," Savannah State University, Savannah State University. (June 2009).

Oh, H. (Author & Presenter), 2009 MAA-SE, "Non-STEM majors’ challenge to Preclculus," Mathematical Association of America, Belmont University, TN. (March 2009).

Contracts, Grants and Sponsored Research

Grant

Oh, Hyounkyun (Co-Principal), "College Algebra Reform Project," Sponsored by US Mimitary Academy, Savannah State University, $5,000.00. (August 2007 - December 2009).

Sponsored Research


Intellectual Contributions in Submission

Refereed Journal Articles


Research in Progress

"Development of Tree Structure for mixed index DAE" (Writing Results)

"Unified Algorithm for Mechanical Systems with Various Constraints" (Writing Results)

SERVICE

Department Service

Committee Member, College Algebra Reform Project. (January 2006 - December 2009).

Committee Member, Faculty Search Committee. (August 2006 - May 2009).

College Service

Committee Member, ADHOC Faculty By-Laws Development Committee. (August 2009 - Present).
Committee Member, Master of Science Program Development Committee. (August 2009 - Present).

University Service

Faculty Senate. (August 2007 - Present).


Seminar, "Matching Online Assessments to Online Pedagogies: Choices, Challenges, and Concerns," Wiley Faculty Network. (2008).

Seminar, "Reading with Understanding, Discussing with Confidence," Wiley Faculty Network. (2008).


Workshop, "Grant Writing Workshop by David C. Morrison, Ph.D. (Grant Writers Seminars and Workshops, LLC)," Office of Sponsored Programs. (2008).


Workshop, "Faculty Portfolio Workshop," Savannah State University. (2003).

Workshop, "Involving Faculty and Students in Research Workshop," Savannah State University. (2002).


SERVICE

Department Service

Committee Member, Grade Review Committee (7). (2009).


Committee Member, Grade Review Committee. (2007).
Committee Member, Program Review Implementation Committee. (2002 - 2003).

Committee Member, Program Review Recommendations Committee. (2002 - 2003).

Committee Member, Search Committee – GTREP Position in Civil/Mechanical Engineering. (2002).

**College Service**

Committee Member, Ad Hoc Cost Core Curriculum Committee. (2009 - 2010).

Committee Member, Facilities and Building Management Program Committee. (2009 - 2010).

Committee Member, Post-Tenure Review Policy Committee. (2009 - 2010).

Committee Member, Math Professor Search Committee. (2002 - 2003).

Committee Member, Recruitment and Retention Committee. (2002 - 2003).

Committee Member, DEAN of COST Search Committee. (2001 - 2002).

**University Service**

Committee Member, General Education Core Curriculum Committee. (2009 - 2010).

Committee Member, Search Committee for Director of Continuing Education. (2004 - 2005).

Committee Member, Committee on Centers of Excellence. (2002 - 2003).

Committee Member, Regents Test Special Committee. (2002).

Committee Member, Athletic Committee. (2001).

Committee Member, Follow-Up on focus Group Discussion/Academic Planning and Priorities Committee. (2001).

**Public Service**

Judge, Georgia’s First District Science and Engineering Fair Judge, Savannah, Georgia. (1996 - 2004).
Deidre Paris, Ph.D.  
3672 Hawthorn Court  
Auburn, Alabama 36830  
deidreparis@yahoo.com  
Cell: 404-429-9469

Education

Georgia Institute of Technology, Atlanta, Georgia  
**Doctor of Philosophy**, School of Civil and Environmental Engineering, August 1996 - May, 2002  
Major: Construction Engineering Management  
Minor: Urban Economics & Policy  
Dissertation: “A Residential Satisfaction Decision Support System for Affordable Housing”  
Major GPA: 3.7

Georgia Institute of Technology, Atlanta, Georgia  
**Master of Science**, School of Public Policy, August, 1996  
Major: Public Policy  
Area of Specialization: Environmental & Urban Policy  
Major GPA: 3.5

Georgia Institute of Technology, Atlanta, Georgia  
**Master of Science**, School of Electrical and Computer Engineering, August, 1994  
Areas of specialization: Computer Engineering & Power System Planning  
Major GPA: 3.5

Southern University, Baton Rouge, Louisiana (Magna Cum Laude)  
**Bachelor of Science**, School of Electrical Engineering, July, 1992  
Major GPA.: 3.5

Courses Taught

**Electrical Engineering Courses**  
- Digital Electronics & Digital Electronics Lab  
- Linear Circuits & Linear Circuits Lab  
- Systems Analysis  
- Engineering Analysis and Design  
- Electronics Engineering

**Civil Engineering/Policy Courses**  
- Urban Economics  
- Engineering Economy  
- Construction & Project Management  
- Environmental Policy

Professional Academic Experience

Savannah State University, Savannah, Georgia  
**Visiting Professor**, College of Science and Technology, Department of Engineering and Technology  
**October, 2010 to the present**  
Teach courses in electrical engineering and mathematics

Tuskegee University, Tuskegee, Alabama  
**Assistant Professor**, College of Engineering and Applied Sciences, Electrical Engineering Department  
**August, 2005 to August, 2010**  
Teach courses in electrical engineering  
- College of Engineering, Architecture, and Physical Science Recruitment Committee.  
- Faculty Senate, Chairperson, Community Outreach.  
- Faculty Advisor, Society of Women Engineers Tuskegee University Chapter.  
- Board Member, Wesley Foundation, Tuskegee University.  
- Research Advisor for at least four students since matriculating at Tuskegee University.

Clark Atlanta University, Atlanta, Georgia
Assistant Professor, Department of Engineering, August, 2002 to the June, 2004
Taught courses in electrical and civil engineering (circuit analysis, digital logic, environmental engineering, and construction project management).
- High school recruitment committee member.
- ABET accreditation committee member.

Beulah Heights Bible College, Atlanta, Georgia
Adjunct Professor, Institute for Urban & Global Economic Development, Department of Urban Studies, December, 2003 to June, 2004
- Taught economic forces behind urban development, with emphasis on location decisions of households and firms.
- Taught economic analysis of urban problems including land use, transportation, housing and urban public finance.
- Taught impact of environment issues on urban environments.
- Taught analysis of state and governmental budgets.

Graduate Teaching Assistantships
Georgia Institute of Technology, Atlanta, Georgia
College of Computing, (Course: Computerization and Society), 1998 to the May, 2001
Ivan Allen School of Public Policy, (Course: US Government and History), 1995 to 1996
- Evaluated students’ academic progress by grading exams.
- Assisted professors in construction management seminar.
- Provided academic assistance to increase understanding and improve learning ability.
- Facilitated classroom discussions through lectures and academic activities.
- Provided technical assistance to help students successfully complete group projects and write coherent technical papers.

Academic Programs
Georgia Institute of Technology, Atlanta, Georgia
SURE (Summer Undergraduate Research in Engineering) program, Graduate Mentor, summers, 1995 to 2000
- Advised students on research projects and helped them to acclimated to the university research environment.
- Served as a liaison between undergraduate students and professors.
PREP (PRE-College Engineering Program) & MITE (Minority Introduction to Engineering), Instructor, summers, 1997 to 2000
- Provided classroom instruction in civil and electrical engineering.
- Presented information on preparation and strategic planning for successful pursuit of an engineering degree and career while in high school.
- Facilitated hands on engineering laboratory projects related to engineering.
STEP (Students at TEch Improve Your Potential), Tutor, 1996 to 1999
- Tutored freshmen and pre-college high school student in introductory engineering courses including statics, physics, algebra, and calculus.
- Counseled students on effective study habits and time management.
- Helped students improve grade point averages.

Professional Experience
Boeing Corporation, St. Louis, Missouri; Huntsville, Alabama, and Seattle, Washington
Boeing Welliver Fellow (June, 2009 to August, 2009)
- Provided recommendations to upper level management on employee retention strategies for young engineers.
- Examined various application of vehicle heath management and different research methodologies to establish collaborations between Boeing and Tuskegee University.
- Assessed recruitment effectiveness and made policy recommendations to increase the pipeline of students entering the aerospace industry and NASA.
NASA Glenn Research Center, Cleveland, Ohio
Structures and Dynamics Branch
NASA Faculty Fellow Program (May, 2010 to August, 2010)
- Developed probabilistic model for electrical control systems to determine design variables sensitivities.
- Performed reliability analysis on different electrical systems including an RLC circuit, a first order control system, and a second-order control system.

NASA Glenn Research Center, Cleveland, Ohio
Control Systems Branch
NASA Faculty Fellow Program (May, 2008 to August, 2008)
NASA Marshall Space Flight Center, Huntsville, Alabama
Engineering Directorate, Advanced Sensors and Health Management Branch
NASA Faculty Fellowship Program (May, 2004 to August, 2004)
NASA Administrative Fellow (September, 2004 to July, 2006)
- Developed risk management methodology for aviation safety program.
- Performed research on IVHM (Integrated Vehicle Health Management) technologies for space systems.
- Established collaborations between NASA and the University of Alabama, Tuscaloosa to develop space engine test bed.
- Developed code using Bayesian Networks for applications for engine health management.
- Evaluated AI applications for IVHM and establishing IVHM research team.
- Performed literature review on current, state of the art prognostic techniques across governmental and private sectors, and academic institutions.
- Developed ranking system to identify pertinent AI prognostic techniques for space exploration.
- Developed high level prognostic design for IVHM.
- Performed advantage/disadvantage analysis on artificial intelligence prognostic techniques.
- Disseminated information through academic journals, conference proceedings, and NASA staff meetings.

Oak Ridge National Laboratory, Oak Ridge, Tennessee
Faculty Research Participant, Engineering, Science and Technology Division, June 2003 to August, 2003
- Performed research on KTN-based SAW devices for novel applications for infrared (IR) imaging for Nuclear Regulatory Commission.
- Collected data for phase temperature characteristics for resonator and delay SAW devices.
- Characterized temperature and phase shift data for resonator and delay line SAW devices.
- Provided recommendations for Oak Ridge National Laboratory Environmental Science and Technology Sensor and Instrumentation Group.

Historic District Development Center, Atlanta, Georgia
Board Member, Contract Selection Committee, May, 2003 to December, 2005
- Organized and ranked contractors for construction projects
- Evaluated and generated contracts and scope of work
- Worked with architects on historic restoration projects for commercial and residential buildings.

Georgia Institute of Technology, Atlanta, Georgia
Coordinator, Graduate Studies, January, 1999 to May, 2002
- Created web pages for thesis, dissertations, and graduation information for a graduate student body of over 3,000 students.
- Collected and organized graduation forms for graduating graduate students
- Converted graduation requirement forms into HTML and PDF format for internet access.
- Developed and presented workshops for graduate students on how to successfully complete doctoral thesis.
Graduate Research Assistant, Construction Research Center, February, 1998 to June, 1998
Worked in a team environment with a group of professors, graduate students, and researchers to develop a set of policies for the City of Atlanta on infrastructure development to attract more technology businesses.

- Developed a policy framework that includes housing, transportation, and telecommunications infrastructure to support industrial growth in Atlanta.
- Identified and forecasted growth potential for current and future technology-based companies.
- Successfully coordinated research efforts with other academic and research entities throughout the Atlanta area.
- Provided technical expertise in identifying the impact of various technologies on urban policies.

Lawrence Livermore National Laboratory, Livermore, California
Energy Program, June, 1997 to September, 1997
Worked in sustainability energy group to develop decision support software for Brazilian power companies.

- Collaborated with Brazilian managers to receive parameters and data to develop model using genetic algorithms.
- Successfully demonstrated software functionality to power companies.
- Research effort helped Brazilian companies become compliant with environmental emission standards while reducing fuel and production costs.

Army Environmental Policy Institute (AEPI), Atlanta, Georgia
Research Fellow, Risk Assessment Group, March, 1995 to January, 1997

- Cultivated key relationships with local and national environmental government services in order to leverage business opportunities.
- Networked with other federal agencies involved in risk assessment to address radioactive and hazardous waste on Army bases develop favorable relationships for collaboration efforts.
- Implemented a strategic approach using influential contacts to assist group in developing environmental policies.
- Developed ranking system using fuzzy logic for environmental and ecological risk assessment.

Conference Presentations


“Neural Network Classifier Statistical Parameters for Housing Infrastructure.” 36th IEEE Southeastern Symposium on System Theory (SSST), Georgia Tech Research Institution, Georgia Institute of Technology of Technology, Atlanta, Georgia, 14-16 March, 2004.
Publications

Book Chapters


Refereed Journal Articles


Conference Proceedings


Grants

“Health Management Artificial Intelligence Prognostics For Space Exploration”, United Negro College Fund. June, 2006 to the present. $20K (covered 100% summer salary).

Dr. Deidre E. Paris, Principal Investigator.

“An Artificial Intelligence for Nuclear Power Safety Systems”, Nuclear Regulatory Commission. February, 2005- the present. $75K. (Time charged towards grant-20%)

Dr. Deidre E. Paris, Principal Investigator.

This research objective is to develop a decision support system based on neural networks to detect faulty nuclear power plants. This research supports four undergraduate students.
“Career Initiative Grant,” National Science Foundation, September, 2002-the present. $20K
Dr. Deidre E. Paris, Principal Investigator (Time charged towards grant-0%)
Support to start up research program including research equipment, educational and research software, student wages, professional subscriptions and dues, and travel to professional conferences.

**Awards and Honors**

- Boeing Welliver Scholar (09)
- Kimley-Horn Engineering Scholarship (99)
- GA Tech Board of Regent’s Scholar (97-01)
- General Motors Scholar (88-91)
- GEM (Graduate Degrees for Minorities in Engineering) (93-94)
- GA Tech Presidential Fellow (96-00)
- Motorola Scholar (92)
- Eta Kappa Nu (Engineering Honor Society) (89)
- NAFP (NASA Administrator Fellow) (04-06)
- NFFP (NASA Faculty Fellow) (04, 07-08)
- Most Distinguished HBCU Grad (03)
Professor Henry A. Taylor Jr.
Savannah State University
Civil Engineering Technology
(912) 358-3277
Email: taylorh@savannahstate.edu

Education

MS, Tuskegee University, 1990.
   Major: Mechanical Engineering
   Supporting Areas of Emphasis: Separation Science

BS, Tuskegee Institute, 1984.
   Major: Chemical Engineering
   Supporting Areas of Emphasis: Separation Science

Professional Positions

   Academic - Post-Secondary

      Associate Professor, Department of Engineering Technology. (2006 - Present).

Professional Memberships

      American Chemical Society. (2010).


Development Activities Attended


SERVICE

College Service

      Committee Member, Ad Hoc Cost Core Curriculum Committee. (2009 - 2010).

      Committee Member, Facilities and Building Management Program Committee. (2009 - 2010).

      Committee Member, Post-Tenure Review Policy Committee. (2009 - 2010).
University Service

Committee Member, General Education Core Curriculum Committee. (2009 - 2010).
Asad Yousuf  
Savannah State University  
Engineering Technology & Mathematics  
(912) 358-4288  
Email: yousufa@savannahstate.edu

Education

EDD, The University of Georgia, 1999.  
Major: Workforce Education  
Supporting Areas of Emphasis: Technology Education  
Dissertation Title: Self-efficacy and vocational interests in the prediction of academic  
performance of students in engineering technology

MS, University of Cincinnati, 1982.  
Major: Electrical Engineering  
Supporting Areas of Emphasis: Computer

BS, N.E.D Engineering University, 1980.  
Major: Electronics Engineering  
Supporting Areas of Emphasis: Computer and Communication

Professional Positions

Academic - Post-Secondary

Professor, Savannah State University. (August 1996 - Present).

Associate Professor, Savannah State University. (September 1991 - September 1996).

Assistant Professor, Savannah State University. (1982 - 1991).

Assistant Professor, Mankato State University. (1987 - 1988).

Industrial

Research and Design Electrical Engineering (Summer Work), Robert Becker Laboratory.  

Research and Design Electrical Engineering (Summer work), Lockheed Martin. (1994 - 1997).


Research and Design Electrical Engineering (Summer Work), NASA. (1987).

Licensures and Certifications

Network+ certified, Comp TIA. (May 10, 2004 - Present).

A+ certified, Comp TIA. (October 10, 2003 - Present).

Microsoft Certified Systems Engineer (MCSE), Microsoft. (April 12, 2000 - Present).

Professional Engineer, State of Georgia. (June 6, 1995 - Present).

RESEARCH

Published Intellectual Contributions

Refereed Journal Articles


Conference Proceedings


Presentations Given

Yousuf, A. (Author & Presenter), ASEE, "Digital Communication Corse with computer networking in EET," ASEE, Salt Lake City, Utah.


Mustafa, M. (Author & Presenter), Yousuf, A. (Author & Presenter), Share best teaching and learning practices through faculty and student engagement at SSU, "Utilization of WebCT in Course Development," Savannah State University, Savannah, GA. (June 2006).

Yousuf, A. (Author & Presenter), ASEE, "PIC Microcontroller Laboratory," ASEE, Salt Lake City, Utah. (June 2005).

Contracts, Grants and Sponsored Research

Grant

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), Kalu, Alex (Co-Principal), "STEM Regional Education In Engineering And Technology," Sponsored by NSF, Federal, $1,198,610.00.

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), Kalu, Alex (Co-Principal), "Stem Regional Education in Engineering and Technology in Georgia and South Carolina," Sponsored by NSF, Federal, $1,194,675.00.

Yousuf, Asad (Co-Principal), "Expanding Minorities Access to Improved Engineering and Technology Education in Georgia and Low Country South Carolina," Sponsored by Department of Education, Federal, $589,000.00. (October 2008 - October 2011).

Zeng, Yan (Co-Principal), Yousuf, Asad (Principal), "REEP: Renewable Energy and Entrepreneurship Partnerships," Sponsored by NCIIA, Private, $30,000.00. (September 1, 2009 - September 1, 2011).

Yousuf, Asad (Principal), "Renewable Energy and Entrepreneurship Partnership (REEP)," Sponsored by NCIIA, Private, $24,000.00. (August 2010 - August 2011).

Yousuf, Asad (Co-Principal), "Articulated Project for the preparation of Instrumentation and Control Technicians," Sponsored by NSF, Federal, $30,000.00. (June 2008 - June 2011).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $31,500.00. (June 2010 - August 2010).

Yousuf, Asad (Principal), " Junior Engineering and Technology Summer Program," Sponsored by UNITE/US Army (JETS), Federal, $30,000.00. (June 2010 - August 2010).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $30,000.00. (June 2009 - August 2009).
Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), "An Integrated Project-Based Course in Mathematics and Engineering," Sponsored by NCIIA, Other, $7,500.00. (2007 - 2008).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $31,500.00. (June 2008 - August 2008).

Mustafa, Mohamad (Principal), Yousuf, Asad (Co-Principal), "A Comparative Study of the Learning Effectiveness Of an Enhanced Multimedia Web Based Delivery System Versus Traditional Classroom Instruction," Sponsored by The Teaching and Learning Grant, Title III at Savannah State University, Savannah State University, $8,000.00. (2006 - 2007).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Principal), "Development of Animatronics and Emotional Face Displays of Robots," Sponsored by CASTME, Title III at Savannah State University, Savannah State University, $4,000.00. (2006 - 2007).

Mustafa, Mohamad (Co-Principal), Yousuf, Asad (Co-Principal), "Junior Engineering and Technology Summer Program," Sponsored by UNITE/JETS, Other, $32,500.00. (June 2007 - August 2007).
Dr. Yan Zeng
Savannah State University
Engineering Technology & Mathematics
(912) 356-2316
Email: zengy@savannahstate.edu

Education

Ph D, University of California at Los Angeles (UCLA), 2006.
Major: Biophysics
Dissertation Title: Mismatches and Bubbles in DNA Melting

MS, Peking University, 2000.
Major: Physical Electronics

BS, Peking University, 1997.
Major: Electronics

Professional Positions

Academic - Post-Secondary

Assistant Professor, Savannah State University. (August 1, 2007 - Present).

Professional Memberships

American Physical Society. (August 1, 2004 - August 1, 2010).

Development Activities Attended

Workshop, "Grant Writing workshop," SSU. (February 3, 2009).


Awards and Honors

TEACHING

Teaching Experience

Savannah State University
ASTR 1001, Introduction to Astronomy, 2 courses.
MATH 1111, College Algebra, 1 course.
PHYS 1111, Introductory Physics I, 3 courses.
PHYS 1112, Introductory Physics II, 2 courses.
PHYS 2211, Principles of Physics I, 5 courses.
PHYS 2212, Principles of Physics II, 4 courses.

RESEARCH

Presentations Given


Zeng, Y. (Presenter), seminar talk, "Mismatch in DNA melting," Flathead Valley Community College, Kalispell, MT. (May 1, 2007).

Zeng, Y. (Presenter), seminar talk, "Mismatch in DNA melting," Oklahoma School of Science and Mathematics, Oklahoma City, OK. (April 5, 2007).

Zeng, Y. (Presenter), 50th Annual meeting of Biophysical Society, "DNA melting," Biophysical Society, Salt Lake City, UT. (February 15, 2006).


Contracts, Grants and Sponsored Research

Grant

Zeng, Yan (Co-Principal), Yousuf, Asad (Principal), "REEP: Renewable Energy and Entrepreneurship Partnerships," Sponsored by NCIIA, Private, $30,000.00. (September 1, 2009 - September 1, 2011).
Other

Zeng, Yan.

SERVICE

Public Service

Committee Member, internal advisory committee for MSEIP grant, Savannah, GA. (July 1, 2009 - July 31, 2009).

judge, Savannah Ogeechee Regional Science and Engineering Fair, Savannah, GA. (February 22, 2009).

Committee Member, internal advisory committee for MSEIP grant, Savannah, GA. (October 1, 2008 - October 30, 2008).

scholar, Adopt-a-Physicist forum, Savannah, GA. (October 6, 2008 - October 24, 2008).

Member, MARC preceptor committee, Savannah, GA. (October 17, 2008).

judge, St. Andrew’s school science fair, Savannah, GA. (October 16, 2007).
Dr. Hua Zhao
Savannah State University
Natural Sciences
(912) 353-5290
Email: zhaoh@savannahstate.edu

Education

Ph D, New Jersey Institute of Technology, 2002.
   Major: Chemistry

MS, Tianjin University, 1997.
   Major: Chemical Engineering

BS, Tianjin University, 1994.
   Major: Chemistry

Professional Positions

Professional

Post-doc, Rutgers University. (September 1, 2002 - May 30, 2004).

Professional Memberships

Member, American Chemical Society.

Development Activities Attended

Workshop, "NIH RISE/MARC Technical Grant Writing Workshop," NIH. (February 17, 2010 - February 19, 2010).

Workshop, "Thermo Fisher GC-MS Training Workshop," Savannah State University, Title III. (June 26, 2007 - June 29, 2007).

Workshop, "University of Kentucky/NIH Internet Grant Writing Program," University of Kentucky and NIH. (May 7, 2007 - May 9, 2007).


TEACHING

Teaching Experience

Savannah State University
1212, Principle of Chemistry II Lab, 1 course.
2501, Organic Chemistry II, 2 courses.
4601, Polymer Chemistry Lab, 1 course.
CHEM 2511, Organic Chemistry II, 2 courses.

RESEARCH

Published Intellectual Contributions

Book Chapters


Refereed Journal Articles


**Journal Articles**


**Presentations Given**


Zhao, H. (Author & Presenter), 231st ACS National Conference, "Hofmeister series and individual ion contribution of ionic liquids to the enzyme activity and enantioselectivity," ACS, Atlanta, GA. (March 26, 2006).


Contracts, Grants and Sponsored Research

Grant

Zhao, Hua (Co-Principal), "Developing Novel Derivatives of Betulinic Acid for Fighting HIV," Sponsored by NIH, Federal, $79,696.00. (June 1, 2010 - May 31, 2012).
Zhao, Hua (Principal), "Enzymatic Esterification of Amino Acids in Ionic Liquids without Derivatization," Sponsored by Royal Society of Chemistry, Savannah State University, $3,000.00. (January 1, 2009 - December 31, 2009).

Zhao, Hua (Principal), "Effect of Ionic Liquid Properties on the Enzyme Stabilization under Microwave Radiation," Sponsored by ACS Petroleum Research Fund, Savannah State University, $45,000.00. (June 1, 2007 - August 31, 2009).

Awards and Honors


RSC Research Award, Royal Society of Chemistry. (January 1, 2009).

Research in Progress

"Developing Novel Derivatives of Betulinic Acid for Fighting HIV" (On-Going)
This is a sub-project of the NIH RIMI grant. The major objective of this project is to produce ionic liquid forms of betulinic acid with high water solubilities and high biological activities against HIV viruses.

SERVICE

Department Service

Committee Member, Student Advisement Manual Committee. (2006 - Present).

Committee Member, Department Grade Dispute Committee (for Dr. Shinemin Lin). (June 2008).

Committee Member, Department Grade Appeal Committee (for Dr. George Tessema). (July 7, 2005 - July 15, 2005).

College Service

Committee Chair, Post-tenure review policy committee. (January 2010 - Present).

Committee Member, Committee on the Civil and Environmental Engineering Technology (CEET) program. (September 2006 - Present).

University Service

Committee Member, Library Media Committee. (January 2009 - 2010).

Committee Member, Librarian Search Committee. (August 2007 - November 2007).

**Professional Service**

Chairperson, ACS Coastal Georgia Local Section, Savannah, GA. (January 1, 2007 - December 31, 2007).

Member-at-large, ACS Coastal Georgia Local Section, Savannah, GA. (2004 - 2006).
Appendix E
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<td>35,000,000</td>
<td>2009</td>
<td>34,400,000</td>
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<tr>
<td>USO Bond Funded MRR</td>
<td>17,500,000</td>
<td>2010</td>
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<tr>
<td>USO Atlanta Region Access Investment*</td>
<td>5,500,000</td>
<td>2011</td>
<td>13,000,000</td>
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<td>USO Atlanta Region Access Investment*</td>
<td>6,500,000</td>
<td>2013</td>
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<tr>
<td>UWG Northwest Campus Infrastructure*</td>
<td>2,000,000</td>
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<tr>
<td>UWG Nursing Building</td>
<td>20,300,000</td>
<td>2011</td>
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<tr>
<td>UWG Biology Laboratory Expansion</td>
<td>22,700,000</td>
<td>2013</td>
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<tr>
<td>UWG Biology Lab Renovations (Design Only)</td>
<td>1,800,000</td>
<td>2014</td>
<td>20,400,000</td>
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<tr>
<td>UWG Library Renovation</td>
<td>11,100,000</td>
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<td>VSU Nevins Hall Math/CS Renovation*</td>
<td>4,500,000</td>
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<td>49,200,000</td>
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<td>VSU Renovation - Historic Ashley Hall</td>
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<td>WC Academic Addition</td>
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Total: 1,700,000,000  

338,800,000