

**Florida Agricultural and Mechanical University
Board of Trustees**



Academic and Student Affairs Committee Meeting

Date: March 7, 2018

Time: 2 pm

Location: Grand Ballroom

Committee Members: Matthew Carter, Chair
Thomas Dortch, Bettye Grable, Devin Harrison, David Lawrence,
Nicole Washington, and Robert Woody

REVISED AGENDA

- | | | |
|------|---|------------------------|
| I. | Call to Order | Trustee Matthew Carter |
| II. | Roll Call | Ms. Valeria Singleton |
| III. | Approval of Minutes for November 29, 2017 Meeting | Trustee Matthew Carter |

ACTION ITEMS

- | | | |
|------|---|-------------------------------|
| IV. | Tenure Upon Appointment – Dean Henry Talley | Interim Provost Rodner Wright |
| V. | Sabbatical and Professional Development Leave | Interim Provost Rodner Wright |
| VI. | Request for New Degree Program
(Master of Science – Systems Engineering) | Dean Murray Gibson |
| VII. | Amendment to Bylaws of FAMU Research Foundation, Inc. | Interim Provost Rodner Wright |

INFORMATION ITEMS

- | | | |
|-------|---|-------------------------------|
| VIII. | Academic and Student Affairs Update | Interim Provost Rodner Wright |
| | • MOA – Management Plan of College of Engineering | Interim Provost Rodner Wright |
| | • Quality Enhancement Plan | Dr. Jennifer Collins |
| | • Hazing Prevention Initiatives | Mr. Bryan Smith |
| | • 2 + 2 Program | Dr. William Hudson, Jr. |
| IX. | Adjournment | |



Florida Agricultural and Mechanical University Board of Trustees Action Item

Academic and Student Affairs Committee

Date: March 7, 2018

Agenda Item: III

Item Origination and Authorization			
Policy _____	Award of Bid _____	Budget Amendment _____	Change Order _____
Resolution _____	Contract _____	Grant _____	Other _____

Action of Board				
Approved _____	Approved w/ Conditions _____	Disapproved _____	Continued _____	Withdrawn _____

Subject: Minutes for November 29, 2017

Rationale: In accordance with the Florida Statutes, a governmental body shall prepare and keep minutes or make a tape recording of each open meeting of the body.

Attachment: Minutes for November 29, 2017

Recommendation: It is recommended that the Board of Trustees approve the minutes of November 29, 2017.

**Florida Agricultural and Mechanical University
Board of Trustees**



**Academic and Student Affairs Committee Minutes
Trustee Matthew Carter, Chair**

**Date: November 29, 2017 @ 8:30 am
Location: Grand Ballroom**

The meeting was called to order by Trustee Matthew Carter. Ms. Valeria Singleton called the roll and the following committee members were present: Matthew Carter, Bettye Grable, Devin Harrison, David Lawrence, Nicole Washington, and Robert Woody. A quorum was established.

Trustee Grable moved to approve the minutes for the meeting on June 7, 2017. The motion was seconded by Trustee Dortch and the motion carried.

Trustee Lawrence moved to approve the minutes for the meeting on September 5, 2017. The motion was seconded by Trustee Grable and the motion carried.

Request for Leave with Pay for Dr. Amber Golden – The revised Request for Leave with Pay for Dr. Golden was presented and discussed. The request for leave was approved during the September BOT meeting. However, it was approved for the fall 2017 semester instead of the 2017-2018 academic year. The amended request was submitted to reflect leave without pay for fall 2017 semester and spring 2018.

Trustee Woody moved to approve the leave without pay for Dr. Golden. The motion was seconded by Trustee Dortch and the motion carried.

Textbook Affordability Annual Report – The Textbook Affordability Annual Report was presented and discussed. Section 1004.085, Florida Statutes, requires that each state university board of trustees submit an annual report to the Chancellor of the State University System regarding various processes or initiatives relating to textbooks and instructional materials.

Trustee Grable moved to approve the Textbook Affordability Annual Report and the motion was seconded by Trustee Woody. The motion carried.

Regulation 4.105 – The revisions to Regulation 4.105 was presented and discussed. Section 1004.085, Florida Statutes, requires that the costs of textbooks and instructional materials must be posted at least 45 days prior to the first day of class. The revisions to the university's regulation will comply with the changes to Section 1004.085, Florida Statutes.

Trustee Dortch moved to approve the revision to Regulation 4.105 – Textbook Affordability and the motion was seconded by Trustee Grable. The motion carried.

Proposed Regulation 5.005 - Proposed Regulation 5.005 – Freedom of Expression was presented and discussed. The purpose of the proposed regulation is to establish guidelines regarding freedom of expression and assembly

**Florida Agricultural and Mechanical University
Board of Trustees**



rights and responsibilities and open platform areas. Trustee Dortch and Trustee Grable reiterated their concerns for the regulation to be widely disseminated to include the students, faculty, and staff.

Trustee Dortch moved to approve the Freedom of Expression regulation and the motion was seconded by Trustee Woody. The motion carried.

Campus Safety Plan - In response to the Board of Governors' request to develop a plan to address the critical need for campus safety enhancements, Dr. Hudson presented FAMU's Campus Safety Enhancement Plan. The plan is to hire six officers and three dispatchers over the next three years.

Trustee Dortch moved to approve the University's Campus Safety Plan and the motion was seconded by Trustee Woody. The motion carried.

Mental Health Counseling Enhancement Plan - In response to the Board of Governors' request to develop a plan to address the critical need for student mental health coverage, FAMU's Mental Health Counseling Enhancement Plan was presented and discussed. The plan is to hire two licensed psychologists over the next two years. After an in-depth discussion due to the funding concerns, a motion was made by Trustee Dortch to approve the plan and forward the plan to the Budget and Finance Committee for funding consideration. The motion was seconded by Trustee Grable and the motion carried.

Academic and Student Affairs Updates – The following informational updates were provided:

- Dr. William Hudson, Jr., provided an update on the 2+2 program.
- Mr. Bryan Smith provided an update on the hazing prevention initiatives.

There being no further discussion, the meeting was adjourned at 9:52 am.

Respectfully submitted,

Matthew Carter, Committee Chair



**Florida Agricultural and Mechanical University
Board of Trustees Action Item**

Academic and Student Affairs Committee

Date: March 7, 2018

Agenda Item: IV

Item Origination and Authorization				
Policy _____	Award of Bid _____	Budget Amendment _____	Change Order _____	
Resolution _____	Contract _____	Grant _____	Other _____	

Action of Board				
Approved _____	Approved w/ Conditions _____	Disapproved _____	Continued _____	Withdrawn _____

Subject: Tenure Upon Appointment

Rationale: In accordance with Article 15.8, Collective Bargaining Agreement (2014 – 2017), “Tenure may be granted to a faculty member by the Board at the time of initial appointment, upon recommendation of the appropriate administrator. The administrator shall consider the recommendation of the department or equivalent unit prior to making his/her final tenure recommendation.”

Tenure Upon Appointment is a condition of employment that is offered to a faculty member who has previously held a tenured position. A request for tenure upon appointment is approved by the provost and the president. As a practice, the university-wide tenure and promotion committee has completed courtesy reviews of the documentation. Prior to the review of the documentation by the university-wide tenure and promotion committee, the documentation has been reviewed by the school/college tenure and promotion committee.

Recommendation: The following applicant is recommended for approval of tenure:

Name	College/School	Rank
Dr. Henry Talley	School of Nursing	Professor

Attachment: Summary

2017-2018 Tenure Upon Appointment Applicant

Applicant	Department	College/School	Rank
Dr. Henry Talley		School of Nursing	Professor

Tenure Upon Appointment/Summaries

Dr. Henry Talley

Dr. Henry Talley is recommended for tenure upon appointment. He will serve as the Dean of the School of Nursing and full professor. Prior to his appointment at Florida A&M University, he was a tenured Associate Professor of Nursing and Director of the Nurse Anesthesia Program at Michigan State University. Dean Talley's expertise in the areas of nursing and nurse anesthesia, exemplary teaching record, scholarship and service record all reflect that he meets the standards for tenure and rank of Professor of Nursing. He received his doctorate degree in Nursing from the University of Tennessee Health Sciences Center in Memphis, Tennessee.



Florida Agricultural and Mechanical University Board of Trustees Action Item

Academic and Student Affairs Committee

Date: June 7, 2017

Agenda Item: V

Item Origination and Authorization			
Policy ___	Award of Bid ___	Budget Amendment ___	Change Order ___
Resolution ___	Contract ___	Grant ___	Other ___

Action of Board				
Approved ___	Approved w/ Conditions ___	Disapproved ___	Continued ___	Withdrawn ___

Subject: Academic Affairs – Approval of Sabbaticals and Professional Development Leaves

Rationale: Eleven (11) applications for sabbatical leave were submitted for the 2018 - 2019 academic year. The Sabbatical and Professional Development Leave Committee reviewed the applications and recommended the approval of seven (7) applications for sabbatical leave to Interim Provost Rodner Wright and President Larry Robinson. In reviewing the applications, the committee considered the programs and activities to be followed while on leave; the expected increase in value of the employee to the university and to the employee’s academic discipline; specific results anticipated from the leave; and any prior leaves that had been provided to the applicant.

Recommendation: Request approval of sabbatical leave for the 2018 - 2019 academic year.

Sabbatical Leave

Name	Title	College/School	Semester(s)
Egwu Kalu	Professor	College of Engineering	Spring 2019
Mtenga Primus	Professor	College of Engineering	Spring 2019
Mary Ellen Graham	Professor	School of Nursing	Spring 2019
Huberta Jackson-Lowman	Professor	College of Social Sciences, Arts and Humanities	Fall 2018
Nan Liu	Associate Professor	College of Social Sciences, Arts and Humanities	Fall 2018 and Spring 2019
Enn Ots	Professor	School of Architecture and Engineering Technology	Fall 2018
Alfred D. Ridley	Professor	School of Business and Industry	Spring 2019

Attachment: Summaries of Research

SABBATICAL PROPOSAL SUMMARIES

Dr. Egwu Kalu

FAMU-FSU College of Engineering

Dr. Kalu's efforts during his sabbatical will focus on Chemical Engineering research and teaching and help advance the growth of the University. His research objectives will be: (i) To collaborate in an integrated team research environment and advance new directions of research effort in Solid Oxide Fuel Cell (SOFC) in a national lab setting. The leave requested will specifically provide Dr. Kalu an opportunity to conduct fundamental and applied research in support of National Energy Technology Laboratory (NETL) SOFC research focusing on electrode engineering technology, electrode degradation processes and fundamental electrochemical reaction and transport measurements. (ii) To explore collaborative ways FAMU can work with NETL in developing proposals for the Departments of Energy (DOE) and Defense (DOD) - i.e. develop FAMUINETL partnership. And finally, (iii) Write journal papers based on recent graduate student experiences.

Dr. Nan Liu

College of Social Sciences, Arts and Humanities

The proposed sabbatical leave project will afford Dr. Lin an opportunity to expand the scope of an original study, which examines a cross-cultural research and the pedagogical methods used in teaching art practices. His current research goal is to complete a cross-cultural comparative analysis of the drawing and painting teaching methodologies utilized in university level art programs in China and in the United States. He will use the leave period to observe the methods and practices employed in the studio drawing and studio painting program at the Capital Normal University (CNU) in Beijing, China during the Fall 2018. The second part of his research in Spring 2019 will be dedicated to a book project tentatively entitled *Teaching Chinese Brush Painting and Calligraphy: Materials, Styles and Techniques*. Dr. Liu envision that this undertaking will be the basis for a future program of active scholarly exchange, both at the faculty level and at the student level, between universities in China and FAMU.

Dr. Dennis Ridley

School of Business and Industry

Dr. Ridley's research project intends to complete the authorship of five research papers on the subject of entrepreneurship. His research will contribute to the effective application of findings in the Interdisciplinary Center for Creativity and Innovation (ICCI), School of Business and Industry. The research will also clarify how Singapore, Hong Kong, Bermuda, Cayman Islands, Botswana, et. al., became wealthy in less than twenty years after discovering capitalism, democracy and Rule of Law (CDR).

Dr. Mtenga Primus**FAMU-FSU College of Engineering**

Dr. Primus will use the sabbatical leave to spend at the St. Augustine University of Tanzania, where he will teach and develop laboratory courses. At the same time, he will work with TANROADS to develop a bridge indexing tool that will take into consideration the roadway network. This tool can also be used to justify budgeting by TANROADS, as well as tracking resources allocation over a period of years. This is an ongoing effort similar work has been done by other colleagues at FAMU-FSU College of Engineering for Florida Department of Transportation (FDOT) (Sobanjo, et al 2010, Mtenga, et al 1999) as well as colleagues at the university of Dar-es-Salaam (originated from my 2011-2012 Fulbright Fellowship period). The final goal will be to encourage a group of students that will work on the proposed work to form a small company with each of them being responsible for providing services of his/her research area to the company.

Dr. Mary Ellen Graham**School of Nursing**

Dr. Graham intends to conduct a qualitative study to examine first year nursing students' perception of the benefits of participating in a Living Learning Community at FAMU prior to participation. The study will also examine the first year nursing students' lived experience in a Living Learning Community after completing their one-year academic term. After the completion of the study, she intends to disseminate research findings at a professional conference/meeting and publish research findings in a professional referred journal.

Dr. Enn Otts**School of Architecture and Engineering Technology**

Professor Otts will develop a textbook intended to serve as a model for the successful transference of key courses taught by near retirement senior faculty. His book is based on the seven years of instruction provided for the graduate course AR 6244 – The New Technology of Enclosed Buildings. The course and book focus on the design of state-of-the-art building technologies. The course textbook will be a great help to other instructional faculty. The workbooks will also facilitate the offering of courses on-line. There is potential for the collection to be published for wider distribution.

Dr. Huberta Jackson-Lowman**College of Social Sciences, Arts and Humanities**

Dr. Jackson-Lowman will utilize this leave to initiate the development of a State of Black Mental Health report in conjunction with my duties as President of the Association of Black Psychologists (ABPsi). During her sabbatical, she will conduct a literature review focusing on mental health issues facing the African American community and the factors that undergird them, and identify strategies for promoting the mental health of Black families and communities. With the assistance of the Association of Black Psychologists, this document will be utilized to craft standards and goals that will contribute to promoting the mental health of the Black community.



Florida Agricultural and Mechanical University Board of Trustees Action Item

Date: March 7, 2018

Agenda Item: VI

Item Origination and Authorization				
Policy _____	Award of Bid _____	Budget Amendment _____	Change Order _____	
Resolution _____	Contract _____	Grant _____	Other _____	

Action of Board				
Approved _____	Approved w/ Conditions _____	Disapproved _____	Continued _____	Withdrawn _____

Subject: MS Systems Engineering (CIP Code 14.2701)

Rationale: A Master of Science degree in Systems Engineering is being proposed by the FAMU-FSU College of Engineering, Department of Industrial and Manufacturing Engineering, in cooperation with the College of Applied Studies at the FSU-Panama City campus. Systems Engineering is an interdisciplinary field that focuses on how to design and manage complex engineering systems over their life cycles. The curriculum will emphasize autonomous (e.g., robotic, driverless), marine, and cybersecurity systems, each of which is of special importance to entities, such as the Department of Defense as well as a growing number of private industries engaged in research and development. To ensure that the curriculum meets the need and demand of industry personnel, program faculty have consulted with entities, such as the Naval Surface Warfare Center, who employs a large number of scientists and engineers that would benefit from this type of degree.

Nationally, Systems Engineering graduates are in high demand and command high salaries, averaging between \$85,000 and \$90,000, depending on the source consulted. Offering this type of degree is consistent with the mission of Florida Agricultural and Mechanical University (FAMU) as it will not only increase the number of graduate degree offerings in STEM; an area of strategic emphasis by the Board of Governors, but will also enhance economic development within the State of Florida. Currently, only two other institutions, Florida International University and University of Florida, offer this program. The proposed program will be offered face-to-face with courses available between the main campus in Tallahassee and also the Panama City campus via ITV. The current plan includes adding new faculty lines to several College of Engineering departments to support the program. The Board's approval to implement does not obligate the University to provide the resources requested; any resource request will be reviewed as part of the annual allocation of resources.

The estimated projections and program costs for years one to five are as follows:

Implementation Timeframe	Projected Enrollment (From Table 1)		Projected Program Costs (From Table 2)				
	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary Funds	Total Cost
Year 1	10	7.5	\$31,200	\$234,000	\$0	\$0	\$234,000
Year 2	20	13.33					
Year 3	25	17.08					
Year 4	35	23.75					
Year 5	40	26.67	\$15,598	\$416,000	\$0	\$0	\$416,000

Attachment: FAMU MS Systems Engineering Proposal

Recommendation: It is recommended that the Florida A&M University Board of Trustees approve the MS Systems Engineering (CIP Code 14.2701) in the FAMU-FSU College of Engineering, effective Fall 2018.

Board of Governors, State University System of Florida

Request to Offer a New Degree Program

(Please do not revise this proposal format without prior approval from Board staff)

Florida Agricultural and Mechanical University and Florida State University

Fall 2018

University Submitting Proposal

Proposed Implementation Term

FAMU-FSU College of Engineering

Industrial and Manufacturing Engineering

Name of College(s) or School(s)

Name of Department(s)/ Division(s)

Systems Engineering

Master of Science

Academic Specialty or Field


Complete Name of Degree

14.2701

Proposed CIP Code

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

Date Approved by the University Board of Trustees

 **President** **2/15/18**
Date

Signature of Chair, Board of Trustees

Date

 **Vice President for Academic Affairs** **2/14/18**
Date

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1 in Appendix A. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2 in Appendix A. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Enrollment (From Table 1)	
	HC	FTE
Year 1	10	7.5
Year 2	20	13.33
Year 3	25	17.08
Year 4	35	23.75
Year 5	40	26.67

Projected Program Costs (From Table 2)				
E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary/Philanthropy Funds	Total Cost
31200	234000			234000
15598	416000			416000

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal

to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included as Appendix A and not reproduced within the body of the proposals because this often causes errors in the automatic calculations.

INTRODUCTION

I. Program Description and Relationship to System-Level Goals

- A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including majors, concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.**

The degree program under consideration is a Master of Science in Systems Engineering (MSSE). Systems engineering (SE) is an interdisciplinary field of engineering that focuses on how to design and manage complex engineering systems over their life cycles. The degree program has three areas of focus: autonomous systems, maritime systems, and cybersecurity systems. The Department of Industrial and Manufacturing Engineering of FAMU-FSU College of Engineering will be the home department of the program. Participating departments include Mechanical Engineering, Electrical and Computer Engineering of FAMU-FSU College of Engineering, and Department of Computer Science of Florida State University (FSU), and FSU Panama City campus (FSU-PC). Working with Florida A&M University (FAMU), the degree program and courses will be available to graduate students at both FAMU and FSU. The curriculum consists of thirty three (33) credit hours. The purpose of the MSSE program is to provide an opportunity for students to pursue an advanced degree in an interdisciplinary area of broad relevance to the private sector and the Department of Defense (DoD) [1]. This new program will target skills required in the national workforce for growing areas of research and development in the technology-driven global economy, and in the DoD and its industrial base to address capability gaps forecast in the engineering of systems related to Autonomy [2], Marine Systems [3], and Cyber Security [4]. The MSSE program is expected to facilitate innovation and economic development in the Florida panhandle area.

- B. Please provide the date when the pre-proposal was presented to CAVP (Council of Academic Vice Presidents) Academic Program Coordination review group. Identify any concerns that the CAVP review group raised with the pre-proposed program and provide a brief narrative explaining how each of these concerns has been or is being addressed.**

The pre-proposal was presented to CAVP on February 10, 2017. No concerns were noted. There was support from the entire group.

- C. If this is a doctoral level program please include the external consultant's report at the end of the proposal as Appendix D. Please provide a few highlights from the report and describe ways in which the report affected the approval process at the university.**

Not applicable, this is a master's level program.

- D. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which specific goals the program will directly support and which goals the program will indirectly support (see link to the SUS Strategic Plan on [the resource page for new program proposal](#)).**

The proposed program directly and indirectly supports eight out the nine directional goals for the state universities defined in the SUS Strategic Planning Goals.

In the priority area of Teaching and Learning, the proposed program directly supports: 1) Increase degree productivity and program efficiency. The MSSE program will be offered to naval base workforce in Panama City and other nearby naval and air force bases as well as local workforce in the Florida Panhandle region. This increases access and degree completion for adult students and distant-learning

students. The program will be offered through both FSU and FAMU – one of the largest historically black colleges and universities (HBCU) in the nation, and will increase access and degree completion for students from underrepresented groups. 2) Increase the number of degrees awarded in STEM and other areas of strategic emphasis. The proposed degree program is a graduate level engineering degree. Systems engineering is a relatively new discipline with great growing potential. Currently within SUS only the University of Florida has a MSSE program with a focus of manufacturing systems and industrial engineering topics. Our proposed program has a different focus on systems engineering processes, and aspects of research and technology development, for systems at somewhat earlier stages of the life cycle. The UF program has a healthy enrollment with 162 students as of Fall 2016. Our MSSE program will have synergy with that offer by UF and facilitate enhancing Systems Engineering education in the State of Florida. This will indirect support the goal of strengthening quality and reputation of academic programs and universities.

In the area of Scholarship, Research, Innovation, the FAMU-FSU College of Engineering has identified Systems engineering one of the strategic directions for the college, and the dean has committed to hiring one senior faculty at the Associate Professor level in Systems engineering, and one tenure-track/tenured faculty in Autonomous Systems to support and enhance this effort. Through the new faculty hires and their working with the existing research capability at FAMU-FSU COE in Robotics and Industrial Engineering, the proposed program will directly support 1) strengthening the quality and reputation of scholarship, research and innovation, 2) foster close working relationship with the naval base in the Panhandle region. Through existing contacts and other potential DoD contacts in the future, we expect to greatly increase collaboration and external support for research activity; 3) Efforts and outcomes from 1) and 2) will both directly and indirectly support the goal of increase research and commercialization activity.

In the area of Community and Business Engagement, the proposed program directly support: 1) Strengthen the quality and recognition of commitment to community and business engagement. The program will work closely with the Naval Surface Warfare Center (NSWC) in Panama City, which will be the main source of students initially. If successful, the program may be expanded to offer educational opportunities to personnel at nearby air force bases, other naval bases, and even the entire DoD. This will greatly improve our recognized commitment to the military community. Offering this degree program to the local workforce, as we also plan, would enhance our commitment to the Panhandle local community. 2) Increase community and business workforce. The program has a heavy focus on providing educational opportunity to the Panhandle local workforce, who will be anticipated to be employed after graduation in the region to contribute to the economic growth in the Panhandle area.

E. If the program is to be included in a category within the Programs of Strategic Emphasis as described in the SUS Strategic Plan, please indicate the category and the justification for inclusion.

The Programs of Strategic Emphasis Categories:

1. Critical Workforce:
 - Education
 - Health
 - Gap Analysis
2. Economic Development:
 - Global Competitiveness
3. Science, Technology, Engineering, and Math (STEM)

Please see the Programs of Strategic Emphasis (PSE) methodology for additional explanations on program inclusion criteria at [the resource page for new program proposal](#).

Systems engineering is an interdisciplinary field of engineering that focuses on how to design and manage complex engineering systems over their life cycles. The proposed program, Master of Science in Systems engineering, belongs to the category Science, Technology, Engineering, and Math (STEM) within

the Program of Strategic Emphasis as describe in the SUS Strategic Plan.

F. Identify any established or planned educational sites at which the program is expected to be offered and indicate whether it will be offered only at sites other than the main campus.

There are two educational sites for the proposed program. The Department of Industrial and Manufacturing Engineering of the FAMU-FSU College of Engineering at Tallahassee will be the home department to the proposed program. FSU Panama City campus will be a major partner of this program. The program will implemented in stages. In the first stage, all courses will be offered as live classroom instruction with synchronized online delivery to remote students at the other site. Both Panama City and Tallahassee classrooms are equipped with appropriate audio/visual capability to deliver the course in class and through iTV. In the second stage, a certificate programs will be developed based on completion of specifically designed course modules.

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

- A. Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.**

Systems Engineering (SE) concerns with systems, processes, and practices required to development them. The International Council on Systems Engineering (INCOSE) defines systems engineering (SE) as an interdisciplinary approach and means to enable the realization of successful systems [5]. SE principles and practices are essential for the development of large, complex, and/or trustworthy systems. SE facilitates deep integration of technical systems and helps ensure the systems developed are coherent, effective, and sustainable solution to fulfill the system needs.

Systems Engineering education has grown since the 1960s. Still SE is a relatively young engineering discipline that has become increasingly important in modern world. There are 31 master's programs and 14 Ph.D. programs in SE in the US [6]. US government agencies, in particular Department of Defense (DoD), have been a major force in pushing forward SE education and research. For example, to address the national needs for SE research, DoD funded a large scale University Affiliated Research Center (UARC) in Systems Engineering. The center includes 22 higher education institutions. It should be noted that none of the affiliated institutions are in the State of Florida.

Nationally SE graduates are in high demand and command a high average salary. References [7-9] list the average salary for systems engineers respectively at \$85,000, \$86,220, and just under \$90,000. According to [10], "In 2009, it was rated No. 1 out of the Top 50 careers in terms of salary and growth prospects over the next 10 years by CNNMoney.com and Payscale.com." Furthermore, [10] states: "Here is what CNNMoney.com wrote as to why this career ranks so highly: "Demand is soaring for systems engineers, as what was once a niche job in the aerospace and defense industries becomes commonplace among a diverse and expanding universe of employers, from medical device makers to corporations like Xerox and BMW."

Considering the bright career prospects of the potential SE graduates and the scarce SE educational and research opportunity in the State of Florida, there is a great need to for the state of Florida to expand the educational and research opportunities in SE.

Furthermore, there is an immediate and consistent need for SE education opportunity in the Florida Panhandle region, where there is a presence of Department of Defense laboratories and rapidly growing private industries engaged in research and development. Most notably, the Naval Surface Warfare

Center (NSWC) is within five miles of the FSU Panama City campus, and has a workforce of over 1400 employees of which over 950 are scientists and engineers. The program would be highly applicable to advanced work in NSWC's mission areas and other Naval R&D establishment at a national level, as well as other DoD bases within the local area such as Tyndall Air Force Base (AFB) and Eglin AFB. Administrators at both NSWC and FSU-PC have asked for the establishment of the proposed MSSE program in order to fulfill the need.

The resulting interaction between faculty, students, and management of these multiple organizations will provide opportunities for technical exchanges and research collaboration. The program will also serve as a recruiting pipeline to these organizations.

B. Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.

As stated in [10], "Systems engineers are in high demand by industry and government". Since "Systems engineers are essential for the technical management, development, and acquisition of complex technology systems [10] and modern day engineering systems are becoming increasingly complex, the demand for this field should only grow.

Demand for the proposed MSSE program is high and immediate. The administrators at both NSWC and FSU-PC have promised substantial student demand. Student enrollments are expected to include 1) existing employees (sponsored by NSWC and eventually other Navel R&D establishments, and Tyndall and Eglin AFB) seeking to enhance core technical capabilities 2) existing employees sponsored by the rapidly growing local private industries seeking to enhance core technical capabilities, and 3) talented Science, Technology, Engineering, and Math (STEM) students in the local community.

We project 10 students (7.5 FTE) in Year 1 and 40 students (26.67 FTE) in Year 5. These numbers are based on extensive discuss with NSWC in Panama City. The numbers are only based on their need only. We expect we can achieve higher enrollment with other target students group as discussed above. The MSSE also will offer an attractive option for our regular pool of graduate applicants by offering them a choice of a degree that is in high demand and highly practical.

C. If substantially similar programs (generally at the four-digit CIP Code or 60 percent similar in core courses), either private or public exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with such programs with regard to the potential impact on their enrollment and opportunities for possible collaboration (instruction and research). In Appendix C, provide data that support the need for an additional program.

The University of Florida (UF) offers a master program under CIP Code 14.2701 in Industrial and Systems Engineering, with emphasis on manufacturing systems and industrial engineering topics. The proposed program is much different since the focus will be on the systems engineering processes, and aspects of research and technology development, for systems at somewhat earlier stages of the life cycle. We have discussed with their program personnel at UF and it was determined that the proposed program would not adversely impact their enrollment. On the contrary, the different yet complementary program emphasis of the two degree programs will facilitate collaboration in research and instruction between the two programs. This will help promote SE education in the State of Florida, and promote collaboration and synergy between the two programs, and encourage the pursuit of more education and research opportunities. This collaboration and synergy may result in the establishment of a Systems engineering Research Center (SERC) in the State of Florida.

D. Use Table 1 in Appendix A (1-A for undergraduate and 1-B for graduate) to categorize projected student headcount (HC) and Full Time Equivalent (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 30 credit hours per year and

graduate FTE will be calculated as 24 credit hours per year. Describe the rationale underlying enrollment projections. If students within the institution are expected to change majors to enroll in the proposed program at its inception, describe the shifts from disciplines that will likely occur.

The projected student head count (HC) and Full Time Equivalent (FTE), and HC/FTE ratio are shown in the following Table. The projected annual enrollment for year 1-5 is 10, 15, 20, 30, 40, based on the extensive discussion with personnel at NSWC and their estimation on their own needs alone.

	HC	FTE	HC/FTE
Year 1	10	7.50	1.33
Year 2	20	13.33	1.50
Year 3	25	17.08	1.46
Year 4	35	23.75	1.47
Year 5	40	26.67	1.50

- E. Indicate what steps will be taken to achieve a diverse student body in this program. If the proposed program substantially duplicates a program at FAMU or FIU, provide, (in consultation with the affected university), an analysis of how the program might have an impact upon that university's ability to attract students of races different from that which is predominant on their campus in the subject program. The university's Equal Opportunity Officer shall review this section of the proposal and then sign and date Appendix B to indicate that the analysis required by this subsection has been completed.

The degree, with its home at the FAMU-FSU College of Engineering, will be offered in both FSU and FAMU, representing an excellent opportunity for a diverse student body, particularly underrepresented minority students. We plan to encourage students not only from within FAMU-FSU College of Engineering, but also from both universities to apply for this semi-professional MS degree to further our diversity effort. The IME department is currently offering a 4+1 BS-MS program in MS in Engineering Management, and we plan to offer in the future a similar 4+1 program in MS in Systems engineering. The combined, accelerated program will further attract current IME undergraduate students (from both FSU and FAMU) to the MSSE program. On the other hand, we hope with its professional appeal and high demand, the MSSE can serve as a great recruiting tool for minority students into the engineering programs at FAMU-FSU College of Engineering.

III. Budget

- A. Use Table 2 in Appendix A to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 in Appendix A to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.)

Table 2 shows the projected costs and associated funding sources for Year 1 and Year 5 of the MSSE program operation. In year 1 \$270,000 E&G funds will be needed for 7.5 annual student FTE, resulting an average E&G cost per FTE of \$31,200. The primary costs is faculty salary and benefit in the amount of \$170,000. In addition, \$24,000 OPS fund is budget for teaching assistant, \$20,000 is budget for half of an A & P personnel to help administer the program. \$20,000 is budgeted to cover cost for essential items and activity to manager and ensure the quality of the program such as travel, meeting and office supplies etc. As enrollment grows the per FTE cost will decrease. By year 5, the program will have 26.67 annual student FTE. The average E&G cost per FTE will be \$15,598 and total E&G funding requirement of \$416,000. The

cost breakdown is the following: faculty salary and benefit \$290,000, A&P personnel salary and benefit \$25,000, Teaching assistant OPS fund \$71,000, and administrative expense \$30,000.

- B. Please explain whether the university intends to operate the program through continuing education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition. Provide a rationale for doing so and a timeline for seeking Board of Governors' approval, if appropriate. Please include the expected rate of tuition that the university plans to charge for this program and use this amount when calculating cost entries in Table 2.**

NOT APPLICABLE.

- C. If other programs will be impacted by a reallocation of resources for the proposed program, identify the impacted programs and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).**

Overall six new hires committed by the Deans of FAMU-FSU COE and FSU-PC (four tenure-track and/or tenured faculty and two teaching faculty) will be involved in the teaching of the courses for proposed program. The shifting in existing faculty effort and reallocation of instructional resources, can be largely but not completely accommodated. The IME graduate program will be negatively impacted the most in term of resources among the involving departments and colleges. The department faculty are research intensive, and already have a heavy teaching load. There will be substantial effort and administrative cost to manage and coordinate the program between the Tallahassee and Panama City campus, and among participating colleges and departments. The use of mentors will be necessary to deliver the distance learning courses. The additional costs will be defrayed by the implementation of an auxiliary distance learning fee. Without these and other additional resources, the department will be negatively impacted.

On the other hand there are many positive impacts from the proposed programs: 1) It will provide a greatly needed educational opportunity that is in great demand but currently lacking in the State of Florida; 2) It will help significantly increase the MS degree production in an important science and engineering discipline of which the demand is projected to grow rapidly; 2) It will help enhance the excellent existing research program e.g., Robotics, Advanced Materials and Manufacturing, Power Systems etc. at the FAMU-FSU COE and improve our national ranking; 3) It will foster collaboration with Navy and other service branches of DoD, enhancing our recognition and increasing opportunity in future research and education with DoD; 4) It will help enhancing the educational capability at FSU Panama City campus; 5) The bright career prospects of SE will help attract existing undergraduate students at the FAMU-FSU COE to the MSSE program, further increasing graduate enrollment. Furthermore it will also help recruit undergraduate students into the FAMU-FSU COE and the IME department, help increasing undergraduate enrollment; 6) It will help train the local area workforce in the Panhandle region and facilitate the economic development and growth in the rapidly growing region; 6) It will enhance education opportunity to underrepresented minorities by offering the program through both FAMU and FSU.

- D. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).**

There is no other anticipated potential impact of the proposed degree program on related programs and departments.

- E. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.**

The proposed degree program is being developed closely working with NSWC. Among other work, NSWC has been actively seeking funding opportunities within the Navy to enhance this program development effort. We are currently in active discussion with them on a Corporate Development proposal seeking a three year, ~1million funding commitment from the Navy to help the degree program development and implementation.

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Tables 1 and 2 in Appendix A, and the supporting narrative for “Need and Demand” to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

The proposed Master of Science in Systems Engineering (MSSE), if implemented, would generate a great deal of benefit to the university, local community and the State of Florida. The MSSE aligns well with the SUS strategic Planning Goals and mission of FAMU-FSU College of Engineering. The program will help boost the graduate enrollment and degree production in a rapidly growing engineering discipline with high earning capability and career growth potential. Offered through both FSU and FAMU, it will provide an excellent opportunity for underrepresented minorities. It will provide an excellent learning opportunity for local workforce training for advanced, knowledge based work in Panama City and Tallahassee, facility the economic growth in the Panhandle region. It will facilitate the constructive collaboration with US Navy and other armed serves branches in educational, training and research opportunity in the near term, and such opportunity will expand to other industries in the future. The proposed MSSE program will also play a vital role in increasing the national presence and visibility of the State of Florida in this promising engineering field and attracting educational and research opportunity to the state.

V. Access and Articulation – Bachelor’s Degrees Only (NOT APPLICABLE to the proposed program)

- A. If the total number of credit hours to earn a degree exceeds 120, provide a justification for an exception to the policy of a 120 maximum and submit a separate request to the Board of Governors for an exception along with notification of the program’s approval. (See criteria in Board of Governors Regulation 6C-8.014)**

Insert response here.

- B. List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see link to the Common Prerequisite Manual on [the resource page for new program proposal](#)). The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation. The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC). This requirement includes those programs designated as “limited access.”**

If the proposed prerequisites are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites. The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional “track” of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

Insert response here.

- C. If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a designation. Explain how the university will ensure that Florida College System transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in Board of Governors Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.

Insert response here.

- D. If the proposed program is an AS-to-BS capstone, ensure that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see link to the Statewide Articulation Manual on [the resource page for new program proposal](#)). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.

Insert response here.

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

- A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan (see link to the SUS Strategic Plan on [the resource page for new program proposal](#)).

The proposed degree program of MS in Systems engineering will produce well-trained graduate students in a new discipline that is in high demand and is well-paid. Working with the naval base in the Panhandle region and FSU PC campus, the program will also help train the local military and civilian workforce, and help grow FSU PC campus’ capability and education portfolio. It will also spearhead collaboration with the Navy, and eventually other service branches both in and out of the State of Florida in educational and research opportunities. The degree will be offered through both FAMU and FSU, which will facilitate attracting students from diverse backgrounds, particularly those in under-represented minority groups. All of these factors align very well with the SUS institutional mission “to provide undergraduate, graduate and professional education, research, and public service of the highest quality through a coordinated system of institutions of higher learning, each with its own mission and collectively dedicated to serving the needs of a diverse state and global society” and to continue to “Support students’ development of the knowledge, skills, and aptitudes needed for success in the global society and marketplace; Transform and revitalize Florida’s economy and society through research, creativity, discovery, and innovation. Mobilize resources to address the significant challenges and opportunities facing Florida’s citizens, communities, regions, the state, and beyond. Deliver knowledge to

advance the health, welfare, cultural enrichment, and economy through community and business engagement and service.” The proposed degree program also aligns well with the mission of FAMU-FSU College of Engineering: “to provide an innovative academic program of excellence at both the undergraduate and graduate levels, judged by the highest standards in the field and recognized by national peers; to attract and graduate a greater number of minorities and women in professional engineering, engineering teaching and research; and to attain national and international recognition of the College through the educational and research achievements and the professional service of its faculty and students.”

B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.

The proposed degree program in systems engineering will have synergistic effect with existing strengths and capabilities at FAMU-FSU College of Engineering. Systems engineering is one of the area of high priority identified during the college’s strategic planning initiative. One of the degree’s focus area is Autonomous Systems, which will benefit from the excellent existing faculty and research capability at FAMU-FSU Center for Intelligent Systems, Control, and Robotics (CISCOR). On the other hand, the establishment of the MSSE will strengthen CISCOR graduate program in Robotics. Another focus area of the MSSE is Cybersecurity Systems. This aligns well with the recent COE strategic planning initiative, which lists cybersecurity one of the areas of strategic importance. The program will benefit from the excellent existing faculty and research capability at IME department, Electrical and Computer Engineering Department, and Center for Advanced Power Systems (CPAS), while the MSSE will help strengthen these departments and centers.

C. Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology in table format of the activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.

The initial discussion of the program started in 2015, when NSWC personnel approached FSU-PC to explore the possibility of establishing the MSSE program. Discussion continued into 2016 when mechanical engineering faculty at COE were contacted and involved in the communication. In early 2017, it was determined that IME department would lead the development of the proposed degree while working closely with Mechanical Engineering department, Electrical and Computer Engineering department of FAMU-FSU COE, and FSU Computer Science. The proposal to explore/feasibility study was developed in February 2017. It was approved by FSU GPC in March 2017, and by FAMU UPARC in May 2017. A one-day meeting discussion with NSWC personnel was held at NSWC Panama City, after which development of this proposal started. The proposal was submitted to COE curriculum committee in September. The committee provides a great deals of comments and suggestion. The proposal was revised to include the suggestions and address the concerns and questions from the committee. The proposal was discussed a second time at COE curriculum committee meeting in October, and another set of questions and suggestions were provided by the committee. The proposal was subsequently revised again, after which the COE curriculum committee approved the proposal in early November 2017. Following is the timeline of planning process

Planning Process

Date	Participants	Planning Activity
2015	Theresa Shirley, FSU -pc personnel	Initial exploration
2016	NSWC: Dr. Theresa Shirey, COE: Dean Gibson, Dr. Emmanuel Collins FSU-PC: Dean Hana, FSU: Dean Buchanan, FAMU: Dr. Sundra Kinsey,	Feasibility discussion
February 2017	NSWC: Dr. Shirey,	Development of proposal to explore,

	COE: Dean Gibson, Dean Perry, Drs. Emmanuel Collins, Okenwa Okoli, Arda Vanli, Changchun (Chad) Zeng FSU-PC: Dean Hana, FSU: Associate VP Buchanan, FAMU: Dr. Sundra Kinsey,	feasibility study
March 2017	COE: Dean Gibson, Dean Perry, Drs. Zeng, Okoli FSU-PC: Dean Hana, FSU: Dean Buchanan	Approval of proposal to explore, feasibility study by FSU Graduate Policy Committee (GPC)
May 2017	COE: Dean Gibson, Dean Perry, Drs. Zeng, Okoli FSU-PC: Dean Hana, FAMU: Dr. Kinsey,	Approval of proposal to explore, feasibility study by FAMU UPARC
May 2017	FSU-PC: Dean Hana, Drs. Amy Polick, Korhan Adalier, Geoffrey Brooks, FSU: Ruth Feiock, Associate VP Buchanan, Dr. Zeng, ,	Discussion on PC campus related issues
June 2017	FSU Board of Trustees	Approval of proposal to explore, feasibility study by FSU BOTs
June 2017	NSWC: Drs. Shirey, Matt Bays, Jeff RishMrs. Jose Velez, Lanshava Booker, Garrett Leavitt, Darryl Updegrove, Ms. Lori Zipes COE: Dean Perry, Drs. Zeng, Okoli, FAMU: Sundra Kinsey,	Planning of the full degree proposal
September and October 2017	COE: Dean Peery, Drs. Zeng, Samuel Awoniyi, Michelle Rambo-Roddenberry, Mark Weatherspoon, Patrick Hollis, John Telotte	Multiple COE curriculum committee meeting
October 2017	Drs. Zeng, Vanli, Samuel Awoniyi	Revision of the full degree proposal
November 2017	COE: Dean Peery, Drs. Zeng, Awoniyi, Michelle Rambo-Roddenberry, Mark Weatherspoon, Patrick Hollis, John Telotte	Approval of COE curriculum committee
November 2017		Approval by FSU GPC

Events Leading to Implementation

Date	Implementation Activity
September 2017	Begin faculty hiring
October 2017	Begin to advertise in NSWC for potential applicants
December 2017	Receive approval of full proposal by FAMU UPARC and Curriculum Committee
January 2018	Receive approval of full proposal by FAMU Faculty Senate
January 2018	Receive approval of full proposal by FSU BOTs
February 2018	Receive approval of full proposal by FAMU BOTs
February 2018	Receive approval of full proposal by SUS BOGs
February 2018	Begin accepting applications
February - July 2018	Prepare facility and other resources for courses in Fall 2018
April 2018	Complete students admission
August 2018	Program starts

VII. Program Quality Indicators - Reviews and Accreditation (NOT APPLICABLE)

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

NOT APPLICABLE.

VIII. Curriculum

- A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.**

The program and student learning outcomes are below.

Program Outcomes

Program Goal – Increase awareness for and enrollment in the degree program through targeted recruitment initiatives.

Objective – Grow enrollment to a minimum of 20 students by the end of year 2.

Student Learning Outcome #1

Upon completion of the degree program, students will demonstrate the ability to investigate how technical systems operate.

Assessment and evaluation process: This will be assessed by the faculty's assessment of the artifacts produced by the students in two courses "Applying Systems Engineering" and "System Modeling and Simulation". The goal is for at least 70% of the students to achieve 70% or higher on a rubric designed to measure the knowledge of technical systems.

Student Learning Outcome #2

Upon completion of the degree program, students will demonstrate the ability to design, develop and implement systems solutions.

Assessment and evaluation process: This will be assessed by the faculty's assessment of the artifacts produced by the students in the course "Fundamentals of Systems Engineering", and the assessment of the capstone project reports from the capstone project course. The goal is for at least 70% of the students to achieve 70% or higher on a rubric designed to measure this capability from "Fundamentals of Systems Engineering", and at least 70% of the students' capstone project reports will meet the standard to be published on the IME department website as "Industrial and Manufacturing Engineering Department Systems Engineering Technical Report".

Student Learning Outcome #3

Upon completion of the degree program, students will demonstrate the ability to effectively collaborate as a member of an interdisciplinary team.

Assessment and evaluation process: This will be assessed by the faculty's assessment of the artifacts produced by the students in two courses "System Modeling and Simulation" and the capstone project

course. Students will be peer evaluated using a survey to gauge the students' performance in team assignments. The goal is for at least 70% of the students to achieve 70% or higher from both peer evaluations.

Student Learning Outcome #4

Upon completion of the degree program, students will demonstrate the knowledge of professional ethics.

Assessment and evaluation process: This will be assessed by the faculty's assessment of the artifacts produced by the students in the course "Engineering Economist and Cost Estimation" and the capstone project course. The goal is for at least 70% of the students to achieve 70% or higher on a rubric designed to measure the knowledge of professional ethics.

Student Learning Outcome #5

Upon completion of the degree program, students will be able to apply professional ethics in decision-making and systems engineering practices

Assessment and evaluation process: This will be assessed by the faculty's assessment of the artifacts produced by the students in the course "Engineering Economist and Cost Estimation" and the capstone project course. The goal is for at least 70% of the students to achieve 70% or higher on a rubric designed to measure the incorporation of professional ethics consideration in making decisions in systems engineering practice.

B. Describe the admission standards and graduation requirements for the program.

The admissions requirements for the Master of Science in Systems Engineering (MSSE) degree program are:

- A bachelor's degree in engineering, computer science, mathematics, physics, or a related area as determined by the Director of Graduate Studies, with a minimum 3.0 (on a 4.0 scale) grade point average (GPA) in all coursework attempted while registered as an upper-division undergraduate student working towards a bachelor's degree; or
- A graduate degree in engineering, computer science, mathematics, physics, or a related area as determined by the Director of Graduate Studies.
- Good academic standing in the last institution last attended.
- A minimum graduate record examination (GRE) score of at least 151 in the Quantitative section and at least 146 Verbal Reasoning section.
- For international applicants, TOEFL score at least 80 or IELTS score at least 6.5.
- Three letters of recommendation obtained from academics or professionals who can comment on the academic and research potential of the applicant.
- Statement of purpose describing reasons for pursuing a Master of Science degree and a career in Industrial and Manufacturing Engineering.

The graduation requirements are

- Complete all core courses, required courses, and elective courses for their focus area;
- Maintain an overall GPA above 3.0
- Receive a grad of "B" or above for the capstone project course.

C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

The proposed degree program is a course-based Master of Science degree, and will not require a thesis.

Instead, students will complete a culminating capstone project prior to completing the degree. The entire curriculum is thirty-three (33) credit hours. The curriculum has four Systems Engineering 3-hour Core Courses, three 3-hour industry/government sponsor Required Courses, and three 3-hour technical elective courses in the areas of focus. In addition, there is a one semester, 3-hour Capstone Project course, which requires group work.

D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

Students need to complete four core courses: 1) Fundamentals of System Engineering; 2) Engineering Economics; 3) Model-based System Engineering & Simulation, and one of the following two courses: Applied Optimization, or Application of System Engineering. The industry/government sponsor required courses are necessary because SE deals with systems across all industries and government sectors with vastly different characteristics and therefore have their unique needs. These courses will be identified and developed from discussions with the specific industry/government sponsor. The three technical elective courses in the area of focus for an industry/government sponsor will also be identified and developed based on the need and feedback from the sponsor.

Following this curriculum framework, we will offer a MSSE degree program with coherent curriculum yet with sufficient flexibility to accommodate the vastly different requirement from potential sponsors' need.

The first offer will be launched to meet the needs from the Navy. They have needs to train their personnel for three area of focus: Autonomous Systems (ATS), Cybersecurity Systems (CYS) and Maritime Systems (MAS). Each area of focus has its own set of elective course. After the discussion the three sponsor required courses are identified. The envisioned course sequence is shown in the table below.

FALL	SPRING	SUMMER
Core Courses	Core Courses	Core Courses
C1: Fundamentals of Systems Engineering	C3: Application of Systems Engineering (Prerequisite: Fundamentals of SE)	R2: Specialty Engineering
C2: Engineering Economics & Cost Estimation	R1: System Test & Evaluation	R3: Engineering Risk Analysis
C4: Model-Based Systems Engineering & Simulation		
Cyber Security Courses	Cyber Security Courses	
CYS1: Cyber Security 1	CYS2: Cyber Security 2	
	CYS3: Cyber Security 3	
Autonomous Systems Courses	Autonomous Systems Courses	
ATS1: Autonomous Systems 1	ATS2: Autonomous Systems 2	
	ATS3: Autonomous Systems 3	
Maritime Systems Courses	Maritime Systems Courses	
MAS1: Maritime Systems 1	MAS2: Maritime Systems 2	
	MAS3: Maritime Systems 3	
Capstone Project Course	Capstone Project Course	Capstone Project Course

* Capstone project course is a one semester course, and can be taken in any semester when the prerequisites are satisfied.

The courses will be taught by instructors from FAMU-FSU COE, FSU-PC, and FSU Department of

Computer Science (CSI-1), and NSWC (NAVI-1). Two teaching faculty with IME as the home department and located at FSU-PC (IMEPCI-1 and 2) will teach the four core courses and three sponsor required courses. The two ME instructors (ME-1, teaching faculty, MEI-2 tenure track faculty) will teach three elective courses in the area of emphasis on Autonomous Systems (ATS1-3); the ECE and Computer Science (ECE-1 tenure track faculty and CSI-1, adjunct) instructors will teach the three elective courses in the area of emphasis on Cyber Security Systems (CYS1-3), and the NSWC adjunct instructor (NAVI-1) will teach the three elective courses in the area of emphasis on Maritime Systems (MAS1-3). A detailed three year implementation plan and the instructors teaching load are shown in the following two Tables. The program will repeat itself after year two. The program will utilize existing faculty as well as newly hired faculty to teach the courses, who will also conduct other teaching and research duties within the college. At any semester an instructor will teach no more than one course except for the two IMEPC teaching faculty, who will teach two courses in some semesters.

Concurrent with meeting Navy's specific needs, we are currently also working to engage the interest from a variety of industries on the MSSE program. We expect to launch another offering to a different sponsor 18-24 months after the rollout of the Navy requested program.

Detailed Three Year Implementation Plan

Year 1											
Fall 2018 (Cohort 1)- Year 1			Spring 2019			Summer 2019			Year total		
Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits
CL-Fundamental of SE	IMEPCI-1	3	C3-Applying SE	IMEPCI-1	3	R2-Specialty Eng	IMEPCI-2	3			
C2 -Engineering Econ	IMEPCI-2	3	R1-System Eval	IMEPCI-2	3	R3-Engin Risk Anal	IMEPCI-1	3			
Total credit hours offered		6			6			6			18
Total credit hours taken		6			6			6			18
Year 2											
Fall 2019 (Cohort 1) - Year 2			Spring 2020			Summer 2020			Year total		
Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits
C4-SE modeling & simulation	IMEPCI-2	3	ATS-2	MEL-1	3	Capstone Project	IMEPCI-1&2	3			
ATS-1	MEL-1	3	ATS-3	MEL-2	3						
CYS-1	CSI-1	3	CYS-2	CSI-1	3						
MAS-1	NAVI-1	3	CYS-3	ECEL-1	3						
			MAS-2	NAVI-1	3						
			MAS-3	NAVI-1	3						
Subtotal credit hours offered		12			18			3			33
total credit hours taken		6			6			3			15
Fall 2019 (Cohort 2)- Year 1											
Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits
CL-Fundamental of SE	IMEPCI-1	3	C3-Applying SE	IMEPCI-1	3	R2-Specialty Eng	IMEPCI-2	3			
C2 -Engineering Econ	IMEPCI-2	3	R1-System Eval	IMEPCI-2	3	R3-Engin Risk Anal	IMEPCI-1	3			
Subtotal credit hours offered		6			6			6			18
Total credit hours taken		6			6			6			18
Total credit hours offered		18			24			9			51
Year 3											
Fall 2020 (Cohort 2) - Year 2			Spring 2021			Summer 2021			Year total		
Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits
C4-SE modeling & simulation	IMEPCI-2	3	ATS-2	MEL-1	3	Capstone Project	PCI-1&2	3			
ATS-1	MEL-1	3	ATS-3	MEL-2	3						
CYS-1	CSI-1	3	CYS-2	CSI-1	3						
MAS-1	NAVI-1	3	CYS-3	ECEL-1	3						
			MAS-2	NAVI-1	3						
			MAS-3	NAVI-1	3						
Subtotal credit hours offered		12			18			3			33
total credit hours taken		6			6			3			15
Fall 2020 (Cohort 3)-Year 1											
Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits	Course	Faculty	Credits
CL-Fundamental of SE	IMEPCI-1	3	C3-Applying SE	IMEPCI-1	3	R2-Specialty Eng	IMEPCI-2	3			
C2 -Engineering Econ	IMEPCI-2	3	R1-System Eval	IMEPCI-2	3	R3-Engin Risk Anal	IMEPCI-1	3			
Subtotal credit hours offered		6			6			6			18
total credit hours taken		6			6			6			18
Total credit hours offered		18			24			9			51

Summary of Instructor Resource Allocation

Instructor source	FA 2018	SP 2019	SU 2019	FA 2019	SP 2020	SU 2020	FA 2020	SP 2021	SU 2021
IMERCI-1	1	1	1	1	1	1.5	1	1	1.5
IMERCI-2	1	1	1	2	1	1.5	2	1	1.5
MEI-1				1	1		1	1	
MEI-2					1			1	
CSI-1				1	1		1	1	
EGEI-1					1			1	
NAVI-1				1	2		1	2	

Note: IMERCI-1&2 will potentially have capstone course in any fall or spring semester, increasing the teaching load of that semester by 0.5 course per person

E. Provide a one- or two-sentence description of each required or elective course.

Core courses (5)

Fundamentals in Systems engineering (C1): What is a System? Systems Science, Systems Approaches, Systems Thinking. Introduces SE Technical Processes and Technical Management Processes as per INCOSE and DAU. Practical exercise applying the basic processes at a high level.

Applications of Systems engineering (C2): Covers the practical application of the SE processes. Includes: Business or Mission Analysis, Stakeholder Needs and Requirements, System Requirements, System Architecture, Logical Architecture Model Development, Physical Architecture Model Development, Systems Design, System Analysis, System Implementation, System Hardware & Software Integration, System Verification, System Validation, System Deployment, Operation of the System, System Maintenance, Logistics. Practical exercises for at least 4 of these activities.

Engineering Economics and Cost Analysis (C3): Covers cost aspects of systems engineering, exploring cost from a decision-making perspective. Examines how cost is used to select alternatives and how the cost of systems can be measured. Concepts covered include economic analysis, cost behavior, cost allocation, system cost, life cycle costs, cost over time, cost estimating techniques, cost uncertainty, and cost risk. Aligns with current DoD Better Buying Power initiatives.

Model-Based Systems engineering and Simulation (C4): Introduces a model based approach to SE practices. Discusses the benefits of MBSE and how to apply MBSE to system development. Covers Structured Analysis and Object Oriented approaches. Describes elements of DoDAF and Enterprise Architectures. Uses a systems modeling tool such as MagicDraw or Rhapsody for a practical exercise using SysML. Discusses advanced mathematical and computational techniques that find common application in systems engineering. Provides an introduction and practical exercise to MATLAB and/or ExtendSim for technical assessment.

Applied Optimization (C5): Covers the following topics in the area of systems optimization: a) how to formulate various engineering optimization problems as mathematical optimization problems; (b) how to develop or identify practical solution procedures for several classes of such optimization problems; and (c) how to compute or evaluate solutions for many optimization problems that frequently arise in the field of systems engineering.

Required courses (3)

Systems Testing and Evaluation (R1): Covers principles of test and evaluation (T&E) and the roles, purposes, functions, and techniques of T&E within the systems engineering process. Covers all aspects of T&E throughout the life cycle of a system to include test planning, test resources, development of test requirements, selection of critical test parameters, development of measures of effectiveness and performance, test conduct, analysis of test results, and determination of corrective action in the event of discrepancies. The course will emphasize the application of T&E through all phases of system development to include modeling and simulation (M&S) activities for enhancing the T&E process, developmental test and evaluation (DT&E), live fire test and evaluation (LFT&E), and operational test and evaluation (OT&E). Principles of experiment design and statistical analysis of test results will be reviewed. The course content will include case studies and lessons.

Specialty Engineering (R2): Covers the fundamentals of Reliability Engineering, Human Factors, and other topics relevant to successful SE implementation. Places these specialties in the context of SE practices with regard to defining proper requirements, performing technical assessments, implementing and verifying the system with the specialty areas in mind.

Engineering Risk Analysis (R3): This course covers three areas in the risk field - Qualitative Risk Analysis, Quantitative Risk Analysis, and Decision Risk Analysis. Qualitative Risk Analysis presents techniques for risk identification/evaluation, risk handling, risk monitoring and risk management. Quantitative Risk Analysis includes Probabilistic Risk Assessment (RPRA) of system performance and project cost/schedule. Decision Risk Analysis gives the students an understanding of how to apply risk and cost benefit techniques in decision making when one must deal with significant risk or uncertainty. The course will present a framework for balancing risks and benefits to applicable situations. Typically these involve human safety, potential environmental effects, and large financial and technological uncertainties. Concepts are applied toward representative problems resulting in risk and decision models that provide insight and understanding, and consequently lead to more successful projects/programs with better system performance within cost and schedule.

Courses for Areas of Emphasis on Autonomous Systems (3)

Fundamentals in Autonomous Systems (ATS1): Reasoning, learning, and optimal decision making methodologies for creating highly autonomous systems and decision support aids. Focus on principles, algorithms, and their application, taken from the disciplines of artificial intelligence and operations research. Machine learning methodologies include expectation maximization and reinforcement learning. Optimal decision making paradigms include linear and integer programming, dynamic programming and Markov decision processes.

Intelligent Sensing and Controls (ATS2): Reasoning, learning, and optimal decision making methodologies for creating highly autonomous systems and decision support aids. Focus on principles, algorithms, and their application, taken from the disciplines of artificial intelligence and operations research. Machine learning methodologies include expectation maximization and reinforcement learning. Optimal decision making paradigms include linear and integer programming, dynamic programming and Markov decision processes.

Autonomous Behavior and Interaction (ATS3): Comprehensive overview including technical aspects and state-of-the art algorithms and methods. Bio-inspired artificial intelligence, cognitive robotics, sensor networks, and cooperative behavior.

Course for Areas of Emphasis on Cybersecurity Systems (3)

Network Security, Active & Passive Defenses (CYS1): Defense of computer networks, use of cryptography for implementing network security, investigation of threats to computer networks, network vulnerabilities, techniques for strengthening passive defenses, tools for establishing an active network defense, and policies for enhancing forensic analysis of attacks on computer networks. Also briefly cover firewalls and intrusion detection systems and possibly other related topics such as secure DNS as time permits.

Data and Computer Communication (CYS2): Overview of networks; data communications principles; data link layer; routing in packet switched networks; flow and congestion control; multiple access communication protocols; local area network protocols and standards; network interconnection; transport protocols; integrated services digital networks (narrowband and broadband); switching techniques and fast packet switching. Layered network architectures, applications, network programming interfaces (e.g., sockets), transport, physical media, data link protocols, local area networks and network routing. Examples will be drawn primarily from the Internet (e.g., TCP, UDP, and IP) protocol suite. Throughout the course, investigate not only what decisions are made in the design of the Internet, but also why such decisions are made.

Computer Security (CYS3): Covers threats and attacks (such as computer viruses and Trojan horses), access control, entity authentication, covert channels, inference and database security, secure operating systems, network security, legal and ethics aspects, administering security, physical security, and TEMPEST.

Course for Area of Emphasis on Maritime Systems (3)

Marine Vehicles (MAS1): Systems, Dynamics & Control. Specific topics include marine vehicle systems (vehicle form, propulsion, control fins, electronics, navigation, inertial systems), weight, buoyancy, static stability, payloads, dynamic stability, hydrodynamic controls, resistance & powering, power & energy sources, and modeling & simulation for design. Stability of vehicles and towed systems, yaw stability for sonar design, and stability for magnetic sensors.

Maritime Environment and Sensing (MAS2): Properties, Dynamics, Sensors & Sensing. Physical conditions and physical processes of the oceans (waves, currents & ocean dynamics; chemical, corrosion, thermal, optical and sonar characteristics), ocean instrumentation & environmental sensors, intelligent sensing and controls (vehicle feedback), and life cycle and system sustainment impacts. Relationship of system to the dynamics of the environment.

Marine System Integration (MAS3): Sensor (payload) integration into platform systems, intelligent mission planning (modeling & simulation), enterprise wide (Navy) view of System of Systems (SOS) – (DODAF flavor), marine/maritime operations research fundamentals. Consider relevant systems engineering issues such as states and modes of the system and subsystems, payload performance requirements, relationship of specific system to the mission and higher-level perspective toward Family of Systems (FOS).

Capstone Project

Group project utilizing knowledge from course learning to design, derive and implement solutions to select problems in the specialized areas in autonomous systems, cybersecurity systems, or maritime systems.

- F. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and indicate whether any industry advisory council exists to provide input for curriculum development and student assessment.**

The proposed curriculum is the result of many in-depth discussions with Navy personnel, particularly the technology leaders in Systems Engineering at NSWC and their colleagues in other naval bases and other DoD branches. Through these discussions, DoD-driven as well as industry-driven competencies were identified and incorporated into the curriculum. We plan to form an advisory committee which consists faculty from FAMU-FSU College of Engineering, FSU-PC, and technical personnel from NSWC and other naval bases to continue to provide input for curriculum development and student assessment.

- G. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.**

NOT APPLICABLE.

- H. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?**

NOT APPLICABLE. This is a master's program.

- I. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2 in**

Appendix A. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

There are two sites for course offering: FAMU-FSU College of Engineering at Tallahassee and FSU Panama City campus. We anticipate that the three specialized course in Maritime Systems will be offered at FSU-PC campus, and the rest of the courses will be offered at FAMU-FSU COE. The capstone project course will be offered at both sites. All courses will be offered as live classroom instruction with synchronized online delivery to remote students at the other site. Both Panama City and Tallahassee classrooms are fully equipped with appropriate audio/visual capability to deliver the course in class and through iTV. In the future, individual courses will be offered online via distance learning.

IX. Faculty Participation

- A. Use Table 4 in Appendix A to identify existing and anticipated full-time (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).**

The existing and anticipated full-time faculty who will participate in the proposed MSSE program through Year 5 are identified in Table 4 of Appendix A.

- B. Use Table 2 in Appendix A to display the costs and associated funding resources for existing and anticipated full-time faculty (as identified in Table 4 in Appendix A). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.**

Table 2 in Appendix A shows the cost and associated funding resources for existing and anticipated full-time faculty, A&P personnel and OPS personnel. Reallocated E&G funding is the funding resource. In year 1 \$270,000 E&G funds will be needed for 7.5 annual student FTE, resulting an average E&G cost per FTE of \$31,200. The primary costs is faculty salary and benefit in the amount of \$170,000. In addition, \$24,000 OPS fund is budget for teaching assistant, \$20,000 is budget for half of an A & P personnel to help administer the program. \$20,000 is budgeted to cover cost for essential items and activity to manager and ensure the quality of the program such as travel, meeting and office supplies etc. As enrollment grows, the per FTE cost will decrease. By year 5, the program will have 26.67 annual student FTE. The average E&G cost per FTE will be \$15,598 and total E&G funding requirement of \$416,000. The cost breakdown is the following: faculty salary and benefit \$290,000, A&P personnel salary and benefit \$25,000, Teaching assistant OPS fund \$71,000, and administrative expense \$30,000.

- C. Provide in the appendices the abbreviated curriculum vitae (CV) for each existing faculty member (do not include information for visiting or adjunct faculty).**
- D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.**

The home department of the proposed Master of Science in Systems Engineering program will be the Industrial end Manufacturing Engineering (IME) department of FAMU-FSU College of Engineering (COE). Department of Mechanical Engineering (ME) of Department of Electrical and Computer Engineering (ECE) of COE will also participate in the program.

The Department of Industrial and Manufacturing Engineering currently has 11 faculty members, 10 tenure-track or tenured and one specialized teaching faculty. Each faculty has an average teaching load of three courses per academic year. The IME department offers three service courses to the College of Engineering – EGN 2123 Computer Graphics for Engineers, EGN 3443 Statistical Topics, and EGN 3613 Principles of Engineering Economy. The faculty members are highly productive in research being ranked 4th across all US IE programs in per faculty research US\$ expended (data from American Society of Engineering Education). Our active areas of research lie in quality control, machine learning, optimization of manufacturing and service systems, as well as the manufacturing of and characterization of advanced materials. The IME Department is the home of the High-Performance Materials Institute and offers an extensive research environment, providing students and faculty with laboratory and research facilities in several different areas of interest. Due to the interactive and diverse nature of this major, we work closely with other departments within and outside the College of Engineering. A major strength of the IME department is its close working relationships with various sectors of industry and government. Our research is funded through many corporations and governmental agencies such as Boeing, Lockheed Martin, Northrup Grumman, Orbital ATK, Solvay, AFOSR, ARO, DoE, NASA, NSF, ONR, amongst others. Over the five academic years from 2011-2012 thru 2016-2017, the average annual research expenditure has been \$3.6M. Our BS program in Industrial Engineering is ABET accredited with 175 students. We offer MS and PhD programs in Industrial Engineering with an average annual enrollment of 54, and annual graduation rate of 20, over the five academic years 2012-2013 thru 2016-2017. Our average PhD student supervised per faculty is 4. We also offer a 4+1 BS MS degree.

The Department of Mechanical Engineering currently has 28 faculty members, 24 tenure-track or tenured and 4 specialized teaching faculty. The faculty members are highly productive in research as evidenced at <https://www.eng.famu.fsu.edu/me/achievements/>. One faculty member is a member of both the National Academy of Engineering and the National Academy of Inventors, five current faculty members are fellows of national or international organizations, three have received other national or other international awards, five are early career award winners, and five currently hold research professorships. Over the five academic years from 2011-2012 thru 2016-2017, the average annual research expenditures has been \$6.17M. The undergraduate program is ranked as one of the top 10 (out of 104) at FSU. It has steadily increased in size over the last 15 years and the average undergraduate population in the Fall 2013 thru Fall 2017 semesters has averaged 394 students. If pre-engineering students who plan to major in Mechanical Engineering are counted, this number increases to about 600 students. The average number of graduates in the five academic years 2012-2013 thru 2016-2017 is 95. The graduate program is equally prosperous. The PhD program is ranked 27th by PhDs.org using the National Research Council S-rankings. The average graduate enrollment over the five academic years 2012-2013 thru 2016-2017 is 72 with an average spring graduation rate during this time period of over 10 students.

The ECE department presently has 28 dedicated and diverse faculty members with strong research capabilities, including two National Academy of Inventors (NAI) Fellows. Active areas of research include energy storage materials and devices, renewable energy, advanced power systems, robotics, embedded systems, solid state and electromagnetic simulations, photonics, computer security, smart grids, resilient power networks, digital signal and image processing, wireless communications, and intelligent systems. The department offers ABET-accredited BS-degree programs in electrical engineering and computer engineering with over 450 undergraduate students, and M.S. and Ph.D. programs in electrical engineering with over 100 graduate students. We also offer a 4+1 BS MS degree and international BS MS programs with China, Nigeria, India and Upper Austria. The Department has strong research ties with several research centers such as the Center for Advanced Power Systems (CAPS), the Aeropropulsion, Mechatronics, and Energy (AME) Center, Center for Intelligent, Systems, Control, and Robotics (CISCOR), High-Performance Materials Institute (HPMI), National High Magnetic Field Laboratory (NHMFL), and Applied Superconductivity Center (ASC). Each faculty has an average teaching load of 3 courses (including one required course) per academic year. The average FTE productivity per faculty is about 12 contract hours. We teach one service course EEL3003 Intro to Electrical Engineering for the other non-ECE engineering majors. Our annual research expenditures exceed \$8M with majority of the external funding coming from ONR, DOE, NSF and DoD. Each faculty

graduates about 1 PhD student per year and produces about 2 journal papers annually.

X. Non-Faculty Resources

- A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved.**

The core and most relevant library resources to the proposed MSSE program are available at both FSU and FAMU library. FAMU and FSU have extensive collection of books on systems engineering and related fields such as industrial engineering, cybersecurity and autonomous systems etc. FAMU and FSU also have up-to-date subscription to a comprehensive collection of research and instruction journals in the area of systems engineering and related fields, which students will have full access to. Select major journals available are listed below:

Systems Engineering, The Journal of The International Council on Systems Engineering,
 Naval Research Logistics
 Expert Systems with Applications
 Reliability Engineering and System Safety
 Risk Analysis
 IEEE Transactions on Systems, Man, and Cybernetics
 Institute of Industrial and Systems Engineers Transactions
 International Journal of Robotics
 IEEE Transactions on Robotics
 Journal of Field Robotics
 Autonomous Systems
 Robotics and Autonomous Systems
 TISSEC-ACM Transactions on Information and System Security
 IEEE Security & Privacy
 IEEE Transactions on Information Forensics and Security
 IEEE Transactions on Dependable and Secure Computing

- B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 2 in Appendix A. Please include the signature of the Library Director in Appendix B.**

No additional library resources are needed to implement and/or sustain the program through Year 5.

- C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.**

All needed class rooms and other types of space to implement the proposal program through Year 5 are available.

- D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2 in Appendix A. Do not include costs for new construction because that information should be provided in response to X (E) below.**

No additional classroom and other space is needed to implement and maintain the proposed program

through Year 5.

- E. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 in Appendix A includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.**

No capital expenditure is required.

- F. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.**

iTV equipment necessary for synchronized delivery of class lecture to remote site is fully available at both sites (Tallahassee and Panama City) for the proposed program.

- G. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2 in Appendix A.**

No additional specialized equipment is required.

- H. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2 in Appendix A.**

No additional resources are needed.

- I. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2 in Appendix A.**

Multiple teaching assistantships will be allocated to the proposed program through Year 5, and the projected cost is included in Table 2 in Appendix A.

- J. Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.**

FAMU-FSU College of Engineering administrators and faculty are currently in active discussion with the Naval Surface Warfare Center (NSWC) at Panama City to seek to establish sites for internships and practicum in the navy. We plan to seek more opportunity for internship and practicum experience for the MSSE program through close collaboration with NSWC, Navy Engineering Education Consortium (NEEC) and other potential industrial collaborators in the future.

REFERENCES:

- [1] M. Crawford, "Certified Systems Engineers Are in High Demand," September 2012, <https://www.asme.org/career-education-retired/articles/certification/certified-systems-engineers-are-in-high-demand>.
- [2] Defense Science Board Summer Study on Autonomy, June 2016, <http://www.acq.osd.mil/dsb/reports/DSBSS15.pdf>.
- [3] DSB Task Force Report on Next-Generation Unmanned Undersea Systems, October 2016, http://www.acq.osd.mil/dsb/reports/Next-Generation_Unmanned_Undersea_Systems.pdf.

- [4] Memorandum for Secretaries of the Joint Chiefs of Staff, April 19, 2011, <http://www.acq.osd.mil/chieftechnologist/publications/docs/OSD%2002073-11.pdf>.
- [5] INCOSE. 2012. *Systems Engineering Handbook: A Guide for System Life Cycle Processes and Activities*. Version 3.2.2. San Diego, CA, USA: International Council on Systems Engineering (INCOSE), INCOSETP-2003-002-03.2.2.
- [6] Fabrycky, W.J. 2010. *Systems engineering: It's emerging academic and professional attributes*. Paper presented at 2010 American Society of Engineering Education (ASEE) Annual Conference and Exposition, Lexington, KY, USA.
- [7] *Systems Engineer Salaries*, https://www.glassdoor.com/Salaries/systems-engineer-salary-SRCH_KO0,16.htm, updated January 30, 2017, posted May 4, 2010.
- [8] *Systems Engineers Salaries in the United States*, <https://www.indeed.com/salaries/System-Engineer-Salaries>, updated February 4, 2017.
- [9] Don E. Sears, "Systems Engineers Have Bright Future," <http://www.eweek.com/c/a/IT-Management/Systems-Engineers-Have-Bright-Future-288616>,
- [10] M. Crawford, Certified Systems Engineers Are in High Demand, September 2012, <https://www.asme.org/career-education-retired/articles/certification/certified-systems-engineers-are-in-high-demand>.

APPENDIX A

TABLE 1-B
PROJECTED HEADCOUNT FROM POTENTIAL SOURCES
(Graduate Degree Program)

Source of Students (Non-duplicated headcount in any given year)*	Year 1		Year 2		Year 3		Year 4		Year 5	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	10	7.5	20	13.33	25	17.08	35	23.75	40	26.67
Students who transfer from other graduate programs within the university**	0	0	0	0	0	0	0	0	0	0
Individuals who have recently graduated from preceding degree programs at this university	0	0	0	0	0	0	0	0	0	0
Individuals who graduated from preceding degree programs at other Florida public universities	0	0	0	0	0	0	0	0	0	0
Individuals who graduated from preceding degree programs at non-public Florida institutions	0	0	0	0	0	0	0	0	0	0
Additional in-state residents***	0	0	0	0	0	0	0	0	0	0
Additional out-of-state residents***	0	0	0	0	0	0	0	0	0	0
Additional foreign residents***	0	0	0	0	0	0	0	0	0	0
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
Totals	10	7.5	20	13.33	25	17.08	35	23.75	40	26.67

* List projected annual headcount of students enrolled in the degree program. List projected yearly cumulative ENROLLMENTS instead of admissions.

** If numbers appear in this category, they should go DOWN in later years.

*** Do not include individuals counted in any PRIOR category in a given COLUMN.

APPENDIX A

TABLE 2
PROJECTED COSTS AND FUNDING SOURCES

Instruction & Research Costs (non-cumulative)	Funding Source														
	Year 1							Year 5							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Faculty Salaries and Benefits	170,000	0	0	0	0	0	0	\$170,000	290,000	0	0	0	0	0	\$290,000
A & P Salaries and Benefits	20,000	0	0	0	0	0	0	\$20,000	25,000	0	0	0	0	0	\$25,000
USPS Salaries and Benefits	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0
Other Personal Services	24,000	0	0	0	0	0	0	\$24,000	71,000	0	0	0	0	0	\$71,000
Assistantships & Fellowships	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0
Library	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0
Expenses	20,000	0	0	0	0	0	0	\$20,000	30,000	0	0	0	0	0	\$30,000
Operating Capital Outlay	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0
Special Categories	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0
Total Costs	\$234,000	\$0	\$0	\$0	\$0	\$0	\$0	\$234,000	\$416,000	\$0	\$0	\$0	\$0	\$0	\$416,000
*Identify reallocation sources in Table 3.															
**Includes recurring F&G funded costs ("reallocated base," "enrollment growth," and "new recurring") from Years 1-4 that continue into Year 5.															
***Identify if non-recurring.															
Faculty and Staff Summary															
Total Positions		Year 1	Year 5												
Faculty (person-years)		1.31	1.96												
A & P (FTE)		0.5	0.5												
USPS (FTE)		0	0												
Table 2 Column Explanations															
1	Reallocated Base* (E&G)	F&G funds that are already available in the university's budget and will be reallocated to support the new program. Please include these funds in the Table 3 - Anticipated reallocation of F&G funds and indicate their source.													
2	Enrollment Growth (E&G)	Additional F&G funds allocated from the tuition and fees trust fund contingent on enrollment increases.													
3	New Recurring (E&G)	Recurring funds appropriated by the Legislature to support implementation of the program.													
4	New Non-Recurring (E&G)	Non-recurring funds appropriated by the Legislature to support implementation of the program. Please provide an explanation of the source of these funds in the budget section (section III, A.) of the proposal. These funds can include initial investments, such as infrastructure.													
5	Contracts & Grants (C&G)	Contracts and grants funding available for the program.													
6	Philanthropy Endowments	Funds provided through the foundation or other Direct Support Organizations (DSO) to support of the program.													
7	Enterprise Auxiliary Funds	Use this column for continuing education or market rate programs and provide a rationale in section III.B. in support of the selected tuition model.													
8	Subtotal columns	Subtotal of values included in columns 1 through 7.													
9	Continuing Base*** (E&G)	Includes the sum of columns 1, 2, and 3 over time.													
10	New Enrollment Growth (E&G)	See explanation provided for column 2.													
11	Other*** (E&G)	These are specific funds provided by the Legislature to support implementation of the program.													
12	Contracts & Grants (C&G)	See explanation provided for column 5.													
13	Philanthropy Endowments	See explanation provided for column 6.													
14	Enterprise Auxiliary Funds	Use this column for continuing education or market rate programs and provide a rationale in section III.B. in support of the selected tuition model.													
15	Subtotal columns 9*...+*	Subtotal of values included in columns 9 through 14.													

APPENDIX A

**TABLE 4
ANTICIPATED FACULTY PARTICIPATION**


Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Speciality	Rank	Contract Status	Initial Date for Participation in Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5				
A	Changchun (Chad) Zeng, Ph.D. Industrial and Manufacturing Eng.	Assoc. Prof.	Tenure	Spring 2017	9	0.75	0.35	0.27	9	0.75	0.25	0.19				
A	Okenwa Okoli, Ph.D. Industrial and Manufacturing Eng.	Professor	Tenure	Spring 2017	9	0.75	0.05	0.04	9	0.75	0.05	0.04				
C	New Hire, Ph.D. Industrial and Manufacturing Eng.	Asst./Assoc. Prof	Tenure	Spring 2020	9	0.75	0.00	0.00	9	0.75	0.13	0.09				
C	New Hire, Ph.D. Industrial and Manufacturing Eng. (FSU-PC)	Teaching Faculty I	MVA	Fall 2018	12	1.00	0.50	0.50	12	1.00	0.50	0.50				
C	New Hire, Ph.D. Industrial and Manufacturing Eng. (FSU-PC)	Teaching Faculty I	MVA	Fall 2018	9	0.75	0.50	0.38	9	0.75	0.50	0.38				
A	Arda Vanli Industrial and Manufacturing Eng.	Assoc. Prof.	Tenure	Fall 2021	9	0.75	0.00	0.00	9	0.75	0.13	0.09				
A	Chiwoo Park Industrial and Manufacturing Eng.	Assoc. Prof.	Tenure	Spring 2022	9	0.75	0.00	0.00	9	0.75	0.13	0.09				
A	Hui Wang Industrial and Manufacturing Eng.	Asst. Prof.	Tenure	Fall 2022	9	0.75	0.00	0.00	9	0.75	0.13	0.09				
A	Camilo Ordonez, Ph.D. Mech. Eng.	Teaching Faculty I	MVA	Fall 2019	12	1.00	0.13	0.13	12	1.00	0.13	0.13				
A	Emmanuel Collins, Ph.D. Mechanical Engineering	Professor	Tenure	Spring 2020	9	0.75	0.00	0.00	9	0.75	0.13	0.09				
C	New Hire, Ph.D. Mechanical Engineering	Asst. Prof.	Tenure	Spring 2020	9	0.75	0.00	0.00	9	0.75	0.13	0.09				
C	New Hire, Ph.D. Electrical and Computer Eng.	Assoc. Prof.	Tenure	Spring 2020	9	0.75	0.00	0.00	9	0.75	0.25	0.18				
	Total Person-Years (PY)							1.31				1.96				
Faculty Code								PY Workload by Budget Classification								
A	Existing faculty on a regular line			Source of Funding				Year 1				Year 5				
B	New faculty to be hired on a vacant line			Current Education & General Revenue				0.43				0.72				
C	New faculty to be hired on a new line			New Education & General Revenue				0.00				1.24				
D	Existing faculty hired on contracts/grants			Contracts/Grants				0.00				0.00				
E	New faculty to be hired on contracts/grants			Contracts/Grants				0.00				0.00				
								Overall Totals for				Year 1			Year 5	
								1.31				1.96				

APPENDIX B

Please include the signature of the Equal Opportunity Officer and the Library Director.

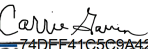


Signature of Equal Opportunity Officer



Date

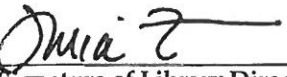
DocuSigned by:




Signature of Equal Opportunity Officer

2/5/2018

Date



Signature of Library Director



Date

This appendix was created to facilitate the collection of signatures in support of the proposal. Signatures in this section illustrate that the Equal Opportunity Officer has reviewed section II.E of the proposal and the Library Director has reviewed sections X.A and X.B.

FAMU Advisory Reviews for Academic Program Proposals

The Dean of the FAMU-FSU College of Engineering has reviewed the proposal for the MS Systems Engineering and recommends it for consideration.

DocuSigned by:
J. Murray Gibson
CC4F3A1BC967409
Dean
January 31, 2018
Date

The College Curriculum Committee of the College/School in which the program resides has reviewed the proposal and affirms that it is consistent with the policies of that Committee.

DocuSigned by:
Reginald Perry
B5976B726E8B4EB...
Chair, College Curriculum Committee
January 31, 2018
Date

The University Program Authorization Review Committee (UPARC) has reviewed the proposal and affirms that it is consistent with the policies of that Committee.

DocuSigned by:
Sandra D. King
7E6E7C4C4C308E8...
Chair, UPARC
January 31, 2018
Date

The Curriculum Committee of the Faculty Senate has reviewed the proposal and affirms that it is consistent with the policies of that Committee.

DocuSigned by:
Kyle Eidahl
490F528D30744E8...
Chair, Curriculum Committee of Faculty Senate
January 31, 2018
Date

The Faculty Senate has reviewed the proposal and affirms that it is consistent with the policies of the full body and recommends approval.

DocuSigned by:
Betty Grable
2Q17286CD79F4F9...
President, Faculty Senate
January 31, 2018
Date

Graduate Programs Only:

The Chair of the Graduate Council has reviewed the proposal and affirms that it is consistent with the policies of that Council.

DocuSigned by:
David Jackson
2E710BDEFB5A48E...
Chair, Graduate Council
January 31, 2018

[Signature]
Signature of Provost and Vice President for Academic Affairs
2/1/18
Date



Florida Agricultural and Mechanical University Board of Trustees Action Item

Academic and Student Affairs Committee

Date: March 7, 2018

Agenda Item: VII

Item Origination and Authorization				
Policy _____	Award of Bid _____	Budget Amendment _____	Change Order _____	
Resolution _____	Contract _____	Grant _____	Other _____	

Action of Board				
Approved _____	Approved w/ Conditions _____	Disapproved _____	Continued _____	Withdrawn _____

Subject: An amendment to the bylaws of the Florida A&M University Research Foundation, Inc.

Rationale: Section 3.4(a)(4) of the Bylaw of the Florida A&M University Research Foundation approved by the Board of Trustees on September 6, 2017 did not include the category from which two directors of the Research Foundation would be appointed. After careful consideration the Administration is suggesting that the Vice President for Academic Affairs be authorized to appoint two members to the Board of Directors of the Research Foundation from the ranks of the University's tenured faculty. Please see the proposed amendment attached.

Recommendation: Approve an amendment to the Bylaws of the Florida A&M University Research Foundation Section 3.4(a)(4) to provide that two directors of the Florida A&M University Research Foundation shall be appointed by the Vice President for Academic Affairs from the tenured faculty.

BYLAWS
OF
FLORIDA A&M UNIVERSITY RESEARCH FOUNDATION, INC.

AMENDED

Effective ~~September 29, 2017~~
March 8, 2018

Bylaws of the Florida A&M University Research Foundation, Inc.

ARTICLE I NAME

The name of the corporation shall be Florida A&M University Research Foundation, Inc., a Florida not-for-profit corporation (the "Corporation"). The corporation shall maintain a registered office in the State of Florida and a registered agent at such office and may have other offices within or without the state.

ARTICLE 2 MEMBERS

The Corporation shall have no members.

ARTICLE 3 BOARD OF DIRECTORS

Section 3.1 General Powers.

The business, property, affairs and funds of the Corporation shall be managed, supervised and controlled by its Board of Directors subject only to applicable law and the limitations contained in the Articles of Incorporation of the Corporation and these Bylaws and the powers and duties reserved to the Board of Trustees of Florida A&M University (the "Board of Trustees") and the President of Florida A&M University (the "University") or designee in regards to this Corporation. The Board of Directors shall have the authority to adopt policy for the Corporation, consistent with the Articles of Incorporation and these Bylaws.

Section 3.2 Reserved Powers.

The President of the University or designee shall have the following specific powers and duties with regards to this Corporation.

- (a) To monitor and control the use of the University's resources by this Corporation;
- (b) To control the use of the University name by the Corporation;
- (c) To monitor the compliance of this Corporation with federal and state laws; and

- (d) To recommend an annual budget to the Board of Directors of the Corporation.

Section 3.3 Number of Directors.

The Board of Directors of the Corporation shall consist of at least five, but no more than seven, directors.

Section 3.4 Appointment of Directors and Tenure.

(a) The directors of the Corporation shall be appointed in the following manner:

- (1) One director shall be appointed by the Chair of the Board of Trustees;
- (2) One director shall be the President or the University or the President's designee;
- (3) One director shall be the Vice President of Research of the University who shall serve as the Executive Director;
- (4) Two directors shall be ~~the~~ appointed by the Vice President for Academic Affairs from the tenured faculty; and
- (5) Up to two additional directors may be elected at the annual meeting of the Board of Directors by the then current members of the Board of Directors.

(b) Terms of office of the members of the Board of Directors shall be two (2) years in length. Notwithstanding the foregoing, the President of the University or designee and the Vice President of Research shall serve until the earlier of his or her resignation, removal from office or death. The Chair of the Board of Trustees shall have the right to remove his/her appointee with or without cause. The President has the right to change his or her designee.

(c) A vacancy on the Board of Directors with respect to elected members may be filled by a vote of the remaining directors at their sole and absolute discretion, however, the Chair of the Board of Trustees and the President of the University shall designate replacement for the directors appointed by them. If a director is appointed to fill a vacancy before the end of the term of their predecessor, such director shall serve for the remainder of the term of the director being replaced.

Section 3.5 Removal of Directors

A director may resign at any time by submitting a written resignation to the Chairperson and the Executive Director. Any elected director may be removed by the Board of Directors at any time with or without cause by a two-thirds vote of the Board of Directors.

Section 3.6 Conflicts and Duality of Interests.

No contract or other transaction between the Corporation and one or more of its directors or any other corporation, firm, association or entity in which one or more of its directors are directors or officers or are financially interested is either void or voidable because of such relationship or interest, because such director or directors are present at the meeting of the Board of Directors or a committee thereof that authorized, approved or ratified such contract or transaction, or because his or their votes are counted for such purpose, or because his or their votes are counted for such purpose, if the contract or transaction is approved in compliance with the provisions of Section 617.0832 of the Florida Not for Profit Corporation Act, or any successor provision.

Section 3.7 Conflict of Interest Policy

The Board of Directors shall adopt and keep in full force and effect a substantial conflict of interest policy for its directors and principal officers in accordance with the rules and regulations of the Internal Revenue Service applicable to tax exempt organizations.

At least once a year, there shall be a written disclosure by each member of the Board of all relationships, fees, commissions or other remunerations furnished by the Corporation to the director, his or her company, employer or associate or by any organization in which a director has a significant beneficial ownership. Additionally, should any conflict arise at any time following completion of the written disclosure statement, the Board member shall so promptly notify the Executive Director in writing.

Section 3.8 Directors' Meeting.

An annual meeting of the Board of Directors shall be held within the State of Florida and other regular meetings of the Board of Directors may be held at such time and place as determined by the Chairperson of the Board or by the Executive Director. Special meetings of the Board of Directors may be called by the Chairperson of the Board or the Executive Director or any two directors. Notice of the meetings shall be provided not less than five (5) days preceding any such meeting. Notice shall be provided by personal delivery, U.S. mail, facsimile or email.

At all meetings of the Board of Directors, the presence of a majority of the total number of directors shall be necessary and sufficient to constitute a quorum for the transaction of business. Unless otherwise required by the Articles of Incorporation, these Bylaws or Florida Statutes, the act of a majority of the directors present shall be the act of the Board of Directors. In the absence of a

quorum, a majority of the directors present may adjourn the meeting from time to time until a quorum shall be present for the transaction of business.

ARTICLE 4 OFFICERS

Section 4.1 Officers

The officers of this Corporation shall be a Chairperson, an Executive Director, a Secretary, a Treasurer and such other officers as may be determined by the Board of Directors. Only members of the Board of Directors of the Corporation may be appointed or elected an officer of the Corporation pursuant to this Article. All officers shall have such authority and person such duties as described below.

(1) Chairperson. The Chairperson shall preside at all meetings of the Board of Directors and shall do and perform such other duties as may be assigned by the Board of Directors.

(2) Executive Director. The Executive Director shall be responsible for the general, day-to-day management of the affairs of the Corporation. He or she shall be responsible for the maintenance and management of the Corporation's activities and personnel.

(3) Secretary. The Secretary shall keep full and accurate minutes for all meetings of the Board of Directors and other Committees. He or she shall transmit all notices required by these Bylaws as may be amended. He or she may sign documents with the Executive Director in the name of the Corporation, as approved by the Board of Directors. The Secretary shall maintain and have charge of all official records of the Corporation that shall be at all reasonable times open to examination of any director, and shall in general perform all duties incident to management of the office of the Secretary for the Board of Directors.

(4) Treasurer. The Treasurer shall be a member of the Finance and Audit Committee of the Corporation. He or she shall present the financial statements of the Corporation to the Board of Directors at each regular meeting of the Board of Directors and at such other times as the Board of Directors may determine. He or she shall ascertain that a full and accurate account is made of all monies received and paid out on accounts administered by the Corporation, and shall in general perform all duties incident to management of the Office of Treasurer for the Board of Directors.

Section 4.2 Appointment and Term of Office.

Officers of the Corporation shall be elected by the Board of Directors at the annual meeting. The Executive Director shall hold office until a successor shall have been appointed or until death, resignation or removal from office and each

of the other officers shall serve terms of two years, each commencing immediately following their election or appointment.

Section 4.3 Removal.

Any officer, other than the Executive Director, may be removed with or without cause by the Board of Directors whenever in its judgment the best interests of the Corporation would be served.

Section 4.4 Vacancies.

A vacancy in any office, other than Executive Director, because of death, resignation, removal, disqualification or otherwise may be filled by the Board of Directors. A vacancy in the office of the Executive Director shall be filled by the President of the University.

ARTICLE 5 COMMITTEES Such

Section 5.1 Creation of Committees.

The Board of Directors may, by resolution passed by a majority of the whole Board, designate an Executive Committee and one or more other committees, each to consist of one or more of the directors of the Corporation.

Section 5.2 Finance and Audit Committee.

The Finance and Audit Committee shall be appointed annually by the Chairperson of the Board. The Finance and Audit Committee shall advise the Board and make recommendations on all financial matters. It shall review the annual operating budget and annual audit and be kept regularly informed concerning financial management issues.

Section 5.3 Other Committees.

Such other committees shall have such functions and may exercise the powers of the Board of Directors as can be lawfully delegated and to the extent provided in the resolution or resolutions creating such committee or committees.

Section 5.4 Meetings of Committees.

Regular meetings of the Finance and Audit Committee and other committees may be held with five (5) days notice at such time and place as shall from time to time be determined by the Committees. Notices will be provided personally, by mail, facsimile, or email.

Section 5.5 Vacancies on Committees.

Vacancies on the Finance and Audit Committee or on such other committees shall be filled by the Board of Directors then in office at any regular or special meeting.

Section 5.6 Minutes of Committees.

Committees shall keep regular minutes of their proceedings and report the same to the Board of Directors when required.

**ARTICLE 6
INDEMNIFICATION**

The Corporation shall indemnify each director, officer, employee and agent of the Corporation, and may indemnify any other person, to the full extent permitted by the Florida Not For Profit Corporation Act and other applicable laws. The rights conferred by this Article shall not be exclusive of any other right that any director, officer, employee, agent or other person may have or hereafter acquire under the Florida Not For Profit Corporation Act, any other statute or agreement, pursuant to a vote of disinterested directors, or otherwise. No repeal or modification of this Article shall limit the rights of any director, officer, employee or agent to indemnification with respect to any action or omission occurring prior to such repeal or modification.

**ARTICLE 7
AMENDMENT**

These Bylaws may be amended by the vote of a majority of the Board of Directors of this Corporation. Amendments to the Bylaws shall be subject to policies, rules or regulations, which may be established by the University Board of Trustees or State.

**ARTICLE 8
FISCAL MATTERS**

Section 8.1 Fiscal Year.

The fiscal year for the corporation shall begin on July 1 and end on June 30 of the following year.

Section 8.2 Operating Budget.

The annual operating budget for the Corporation shall be approved by the Board of Directors. The President of the University shall assure compliance with any requirements that may be established by the Board of Trustees or State concerning budgetary review or approval.

Section 8.3 Financial Statements.

The Treasurer shall render to the Board at their first meeting of each fiscal year, if available, preliminary and unaudited financial statements for the year just completed. The Treasurer will submit a Treasurer's Report at each regular meeting of the Board.

Section 8.4 Audit.

After the close of each fiscal year, the Corporation shall cause a financial audit of its accounts and records to be conducted by an independent certified public accountant pursuant to Section 1004.28, Florida Statutes, as may be amended or supplemented, and in accordance with the rules adopted by the Auditor General pursuant to Section 11.45, Florida Statutes, as may be amended or supplemented. The President of the University shall submit the annual audit report to the Board of Trustees and the Auditor General. In addition, the Corporation shall provide a copy of its federal Application for Recognition of Exception and each year shall provide a copy of its Form 990, Return of Organization Exempt from Federal Income Tax, to the President of the University and to any other bodies as required by applicable laws of the State of Florida.

ARTICLE 9 PARLIAMENTARY RULES

The most recent edition of "Roberts Rules of Order" shall be followed in conducting the meetings of the Board of Directors, unless otherwise provided in these Bylaws.

ARTICLE 10 MISCELLANEOUS

Section 10.1 Checks.

Checks, drafts or electronic fund transfers of funds of the Corporation may be signed/approved by the Treasurer and Executive Director or Chairperson. A facsimile may be used in lieu of actual signatures.

Section 10.2 No Vested Rights.

No Board member shall have any vested rights, interests, or privileges of, in or to the assets, functions, affairs or franchises of the Corporation or any right, interest or privilege which may be transferable or inheritable.

Section 10.3 Regulations/Policies of the Board of Trustees and State Laws

The Articles of Incorporation and Bylaws shall be consistent with the applicable regulations and policies of the University and of the University Board of Trustees and laws of the State of Florida, including, but not limited to, the right of the University President to monitor and control the use of the resources of the University, including, but not limited to, the name of the University; and to monitor compliance of the Corporation with state and federal laws, regulations and policies of the University Board of Trustees and laws and regulations of the State of Florida.



**Florida Agricultural and Mechanical University
Board of Trustees Information Item**

Academic and Student Affairs Committee

Date: March 7, 2018

Agenda Item: VIII

Subject: Academic and Student Affairs Updates

Summary: Updates will be provided on Academic and Student Affairs.

- MOA – Management Plan of College of Engineering
- Quality Enhancement Plan
- Hazing Prevention Initiatives
- 2 + 2 Program

Updated Memorandum of Understanding for the management of the FAMU-FSU College of Engineering

FAMU Board of Trustees

Signatories: President of FAMU, President of FSU, Chancellor of the State
University System Board of Governors

Last amendment date 2005 (to deal with accreditation issues)

New version recommended at the Joint Management Council February 7th
approved by all parties present, presented to Board of Trustees for review

Comparison with agreement from 2005

Reflects working agreement between both universities and the Board of Governors implemented in 2015

- Adds VP's for Research and ex-officio student reps to Management Council
- Chancellor of SUS now serves as the presiding officer
- Quarterly meetings and semi-annual reports to the board are now required
- Dean reports to both universities as before, but is now a faculty member at FAMU, appointed by FAMU President, in consultation with FSU
- Student discipline responsibilities clarified
- Fiscal agent for joint budget shifted from FAMU to FSU
- College staff access to needed university systems is now explicitly stated
- Appendix added on technical details such as facilities, emergency services, transportation etc.
- Several other minor changes to update agreement and/or improve clarity

Memorandum of Agreement

On the

Management Plan of the College of Engineering

between

Florida A &M University, Florida State University, and the
Chancellor, State University System of Florida

Tallahassee, Florida

Memorandum of Agreement on the
Management Plan of the College of Engineering between
The Florida Agricultural and Mechanical University and The
Florida State University

Articles of Agreement

Article 1. Governance of the College

Florida Agricultural and Mechanical University (FAMU) and the Florida State University (FSU) acknowledge the establishment of the Joint College of Engineering (Joint College) with engineering curricula subdivided into programs and degrees as approved by the Board of Governors of the State University System of Florida.

The Joint College shall be known as the College of Engineering of Florida Agricultural and Mechanical University and Florida State University. The acronym FAMU-FSU COE or JCOE may be used as an abbreviated designation of the College.

Article 2. Joint College Management Council

The Joint College Management Council (Management Council) consists of the Chancellor, and the Presidents (or their designees), Provosts, Vice Presidents for Research, and Chief Financial Officers of the two universities.

The Dean of the Joint College and two student representatives, appointed by the respective Student Government Association presidents, shall be ex-officio non-voting members of the Management Council.

The Management Council shall function as a policy-making body for the Joint College in all matters except those that are governed by individual University rules, regulations, policies and procedures. The Chancellor shall serve as the presiding officer of the council. Meetings shall be held at least quarterly, and may be called at the request of either President, the Chancellor or the Dean.

The Management Council may invite participants to discuss topics and appoint subcommittees to study specific issues.

Article 3. Administration of the College

There is a single Dean who reports functionally to the two Provosts and administratively and operationally to the Provost of Florida Agricultural and Mechanical University. The Management Council has designated the academic home of the Dean to be Florida Agricultural and Mechanical University.

The Dean is responsible for the planning, administration and operation of engineering programs and supporting units in the Joint College. The Dean formulates the budget, under the direction of the Provosts, for the Joint College and secures the funding according to the procedures of each university and the advice of the Management Council. The budget designated as the joint engineering budget shall be approved by the Management Council. The Management Council has designated FSU as fiscal agent, with fiduciary responsibility for the state allocated budget.

Each university, based on need, may allocate their own funds to support the Joint College. These funds will remain with the individual university and will not be accounted for as part of the Joint College budget.

The Dean is responsible for appointing College of Engineering faculty, staff and administration within established procedures of each university.

The President of Florida Agricultural and Mechanical University shall appoint the Dean of the JCOE in consultation with the President of Florida State University. The Presidents shall consider the recommendations of a search committee, and the composition of the search committee will be determined by the Presidents and approved by the Management Council.

College staff will be given access to both universities' processes and data as needed to perform their jobs.

Article 4. Faculty Appointment, Promotion and Tenure

Faculty members are appointed by and hold tenure, when earned, in a department of the Joint College through one of the two participating universities. Faculty appointed at either university must meet uniform Joint College promotion and tenure standards. Upon the recommendation of the elected Joint College Promotion and Tenure Committee, the Dean shall make promotion and tenure recommendations to the respective universities in accord with their applicable regulations and procedures. These regulations and procedures shall be consistent, insofar as possible, with existing university regulations and procedures, and with collective bargaining agreements.

Faculty members employed by one university are automatically designated "Joint College" faculty thereby being considered a faculty member of both universities for purposes of carrying on the teaching, research and service responsibilities of the Joint College and have, except tenure, faculty privileges at both universities.

Article 5. Students and Degrees

Students are admitted to and graduated from either of the two participating universities. Students will be held to uniform grading standards, regardless of admitting university. Students choosing to enter an engineering program are first admitted to the Pre-engineering Program consisting of a basic set of science, mathematics, introductory engineering and liberal studies subjects. Admission to an engineering program as an engineering major at the Joint College is made after the student completes satisfactorily a prescribed set of prerequisite courses in mathematics and science at either of the two universities. Performance requirements for these prerequisites shall be set by the Joint College and approved by both universities. These requirements shall be uniform for students at both universities, and will supersede any conflicting university policies.

Registration for courses at the Joint College shall be made through the procedures of the university at which the student matriculates. The university registrars shall be the repositories of official records of student performance. All official academic records of students shall be made available to the Joint College as permitted by law.

Within the Joint College, upon the recommendation of the engineering faculty, the Dean may recommend to the Management Council policies and procedures affecting student life with the Joint College. Students shall be subject to the Student Code of Conduct regulations of their home university. The Joint College of Engineering, where possible, will follow a common set of procedures to address alleged Code violations. Responsibilities for and procedures related to student life outside the Joint College shall be handled through the normal channels of the university in which the student is enrolled.

Upon successful completion of an engineering degree program, a student shall receive a diploma from The Florida Agricultural and Mechanical University or The Florida State University, which indicates that the degree is awarded by the FAMU-FSU Joint College of Engineering.

Article 6. Curriculum

There is a single engineering curriculum at the Joint College specific to each

engineering program. All undergraduate degree programs at the Joint College shall be established to meet the requirements for accreditation of the Accreditation Board for Engineering and Technology (ABET).

The establishment of new degree programs or termination of existing degree programs shall be approved by the Boards of Trustees of both universities.

Faculty of the Joint College is responsible for developing and implementing the engineering curriculum leading to academic degrees in conjunction with the curriculum committees at the respective universities.

Faculty of each university may teach courses which they are qualified to instruct. Both universities shall honor all courses taught at the Joint College for degree credit. Degree curricula, requirements and course descriptions shall be published identically in the bulletins/catalogs of both universities.

Article 7. Responsibilities of FAMU and FSU

The Joint College is an integral part of each university. Each university has responsibilities for and obligations to support and maintain the operation of the Joint College. The Joint College uses the business and other support services of both universities and is prohibited from developing an autonomous administrative structure that is not responsible to the two universities, unless otherwise specified in this agreement.

The Joint College should be regarded as a single entity and the Dean is responsible for initiating and ensuring other support from the universities as the need arises.

FAMU and FSU shall work jointly to ensure that the most efficient and effective services are provided to the Joint College students, faculty and staff.

Article 8 Semi-Annual Reports

The Management Council shall receive reports from the appropriate responsible party on the following topics, and may require additional reports at its discretion:

- a. Recruiting, enrollment and graduation by gender and ethnicity;
- b. Adequacy and consistency in academic preparation and achievement;
- c. Budget and expenditures;
- d. Facilities Planning and Construction;
- e. Research funding and activities;
- f. Faculty hiring, promotion, tenure, and integration; and
- g. Technology transfer and commercialization activities.

Article 9. Provisions

Any voting member of the Management Council may propose amendments or modifications to this agreement. Any amendment or modification to this agreement shall be approved by a two-thirds vote of the Management Council. Any matters not specifically referenced in this agreement may be resolved by consensus of the Dean and the two presidents; or may be referred to the Management Council for resolution.

President, FAMU

President, FSU

Chancellor, Board of Governors

Appendix 1

A. Construction

The Management Council shall designate one university to have oversight responsibility for all construction projects at the Joint College that are initiated after June 30, 2016. FSU is responsible for the Joint College of Engineering construction.

B. Furniture and Equipment

Purchases of furniture and other movable equipment must be approved by the Dean or designee.

The purchasing procedures and property inventory records should follow the institution which the research dollars have been awarded to.

Once a project has been closed or the property fully depreciated, the property shall be transferred to the Joint College of Engineering under the FSU property management system.

C. Maintenance

FSU is responsible for Joint College building maintenance, janitorial services, and landscaping/grounds-keeping.

Support for special services (dedications and receptions) will be provided by FSU, but the Dean may request such services of either university when conditions warrant.

D. Security and Safety

FSU will provide security for Joint College facilities. FSU Environmental Health and Safety will provide services to the Joint College. Emergency management, including closing the facility, is handled by FSU. If either university suspends classes, the college will suspend all classes.

E. Budget and Finance

The Joint College budget has been appropriated as a single entity in the General Appropriations Act. The Management Council has designated FSU as fiscal agent, with fiduciary responsibility to maintain a separate and identifiable account for the Joint College.

The legislative budget request for the Joint College shall be developed by both Universities and approved by the Management Council.

The Dean will recommend and request approval of an annual operating

budget by the Management Council.

Budget reports will be provided to the Management Council on at least a quarterly basis.

F. Risk Management and Insurance

As noted in Section D, FSU will be responsible for environmental health and safety matters.

Student/employee injury or unemployment compensation is the responsibility of the university at which the individual is enrolled or employed.

Dealing with building and equipment damage or destruction related to research will be managed according to the procedures of the institution which has been awarded funds and in accordance with federal acquisition requirements.

G. Minor Renovation Projects

The Joint College will receive its pro-rata share of any minor maintenance appropriations made to the State University System, which will be titled in the name of the Joint College.

FSU, as fiscal agent, will manage renovation project funds unless otherwise agreed to between the two institutions.

H. Purchasing

Purchasing for general educational and general items will be handled by FSU. Research related purchases will follow the purchasing procedures for the institution which has been awarded funds.

I. Space Inventory

Space will be separately identified as belonging to the Joint College and will be addressed in the FSU space inventory system.

FSU will be responsible for the reporting of Joint College space to external entities as may be required, including, but not limited to, the Board of Governors, the Department of Financial Services, and the Department of Environmental Protection.

In addition, both universities may separately identify some space on its main campus as being assigned to the Joint College while remaining on the space

inventory of the respective university.

J. Property Inventory

Furniture and equipment will be separately identified as belonging to the Joint College and will be addressed in the FSU property inventory system. Property related to research will be managed according to the procedures of the institution which has been awarded funds and in accordance with federal acquisition requirements.

K. Postal Services

The Joint College receives US mail directly, and interchanges mail with both campus internal mail systems.

L. Food Services and Vending

FSU shall be responsible for food services and will ensure that FAMU students can utilize their meal plans at the Joint College. Net revenue generated from the Joint College sales will be credited to the Joint College for its use.

FSU shall be responsible for vending services. Agreements held by FAMU will terminate at the end of their existing terms and the activities will transfer to FSU. The earned proceeds from concessions will be a part of the FSU Concessions Fund and will provide support for those Joint College activities, which are normally funded from the Concessions Account.

M. Other Contractual Agreements

Future revenue contracts shall be the responsibility of FSU as fiscal agent. Net revenues generated from other contractual agreements will be credited to the Joint College for its use.

N. Messenger Services including Telephones

FSU will be responsible for the operation and maintenance of all telecommunications including, without limitation, telephones.

O. Utilities

This responsibility rests with FSU as fiscal agent.

P. Transportation

Each university shall provide reasonable transportation for its students' education at the joint college. The funding for these services should not be a Joint College expense and should come from other resources.

Q. Parking and Traffic

FSU will be responsible for administering the parking program including the issuance of citations for violating parking regulations.

Vehicles properly identified as belonging to Board of Governors' members, or their staff, may park at Joint College without charge when on official business.

R. Information Technology

1. The Joint College will initiate recommendations for information and computer acquisitions through the FSU planning process and will be included in the FSU computer plans.

FSU will provide such central maintenance for the Joint College as it provides for other colleges.

2. Planning and Managing Information and Computer Systems: FSU will be responsible for planning and managing the information and computer systems in full consultation with the Dean and in coordination with FAMU.

S. Personnel

Insofar as possible, the Joint College operates with its own uniform policy, but where legitimate institutional differences exist beyond the level of the Joint College, each employee is responsible to his or her own university.

The same principle holds for each category of employee, USPS, A&P and Faculty. Faculty meet uniform Joint College criteria for promotion and tenure and upon recommendation by the Joint College, proceed through the separate university procedures.

T. Miscellaneous Functions

1. Career Services

Both institutions will work collaboratively with the Dean to coordinate career services within the college and will accommodate and provide open access to students regardless of their home institution. The universities have agreed that there will not be a separate engineering career services function, but there will be career services staff members from both institutions who will work in partnership with each other to provide career services within the College of Engineering.

2. Coordination with Other Facilities

The Dean will work with facilities offices of both universities and with

Innovation Park to ensure adequate coordination of events.

3. Scheduling Space Usage

The Dean will be responsible for securing space on each campus for engineering purposes and officials of each campus will work through the Dean in scheduling space in the Joint College.

Quality Enhancement Plan Overview

PRESENTED BY

Jennifer Collins, PhD
QEP Director

Florida Agricultural and Mechanical University

March 6, 2018

Quality Enhancement Plan

▶ SACSCOC Core Requirement 2.12

- The institution has developed an acceptable Quality Enhancement Plan that includes an institutional **process for identifying key issues** emerging from **institutional assessment** and focuses on **learning outcomes and/or the environment** supporting student learning and accomplishing the mission of the institution.

▶ Comprehensive Standard 3.3.2

- The institution has developed a Quality Enhancement Plan that:
 - Demonstrates **institutional capacity** for the initiation, implementation, and completion of the QEP;
 - Includes **broad-based involvement** of the institutional constituencies in the development and proposed implementation of the QEP; and
 - Identifies **goals and a plan to assess** their achievement.



WRITE ON FAMU

Quality Enhancement Goals

- ▶ **QEP Goal 1:** Provide students with multiple opportunities throughout their matriculation to engage in writing activities that improve their written communication skills.
 - ***Student Learning Outcome:*** Students will be able to effectively express thoughts and synthesize ideas using Standard English and appropriate vocabulary in quality written documents related to their disciplines.
- ▶ **QEP Goal 2** Implement a WAC program that includes infrastructure enhancements designed to support the development of students' writing proficiency.
 - ***Learning Environment Outcome:*** We will foster a campus-wide culture of writing via a WAC program that provides students with opportunities to engage in writing throughout their matriculation with a focus on improving writing proficiency.
- ▶ **QEP Goal 3:** Implement WAC faculty development program designed to assist faculty in incorporating WAC best practices in their courses.
 - ***Faculty Development Outcome:*** Faculty will incorporate WAC best practices in their courses leading to writing enhanced courses where student writing proficiency is improved.

Goal
Provide a supportive student-learning environment that enables the cultivation of writing proficiency.

Goal
Provide students with multiple opportunities throughout their matriculation to engage in writing activities that improve their written communication skills.

Goal
Provide support for faculty development to facilitate improvements in student writing proficiency.

Faculty Development Enhancement

Student Learning Enhancement

Learning Environment Enhancement

Outcome
Foster a campus-wide culture of writing through resource and learning environment enhancements to improve writing proficiency.

Outcome
Students will be able to effectively express thoughts and synthesize ideas using Standard English and appropriate vocabulary in quality written documents related to their disciplines.

Outcome
The University will invest in resources to improve writing proficiency in support of a campus wide culture of writing.

Activities

Curriculum Activities

Co-Curricular Activities

Activities

- ☑ PD/Workshops
- ☑ Repository
- ☑ Summer Learning Community
- ☑ Consultants

- ☑ Writing Pathways

- ☑ Repository
- ☑ Workshops

- ☑ Writing Enhanced Courses
- ☑ WAC Program Development
- ☑ Writing Center
- ☑ Rewards and Recognitions

Improved Writing Proficiency

Writing Proficiency Pathways



First Year Students



Well-Prepared Graduates

Foundational Pathway
Freshman-level WEC Designated Course

Career Pathway
WEC Designated Career Course

Discipline Specific Pathway
Junior-level WEC Designated Course

Career Pathway
WEC Designated Career Course

Co-Curricular Activities (all years)
Information Literacy
Writing Resource Center
University Career Services Center

Rewards & Recognition (all years)
ePortfolio Awards
Electronic Badges



Questions



For more information, please contact:

Jennifer Collins:

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(850)599-8347



Our Process

2013-2014 Frequency of Broad Outcome Focus Not Met Across Colleges/Schools (Top 5 listed)

	CSSAH	CST	COE	CAFS	COL	COPPS	SOE	COEng.	SOAHS	SAET	SBI	SJGC	SON	N	Frequency %
Content Knowledge/ Skills	5			1	1	2		5	4		2		1	21	19.27%
Critical Thinking	3			1		1			4		2		1	12	11.01%
Communication	1		1	1	1	3		1	2		2			12	11.01%
Cultural Diversity/ Competence	2							2	1		3			8	7.34%
Ethical Values/ Understanding	2		1			1					2	1	10	7	6.42%

2014-2015 Frequency of Broad Outcome Focus Not Achieved Across Colleges/Schools (Top 5 listed)

	CSSAH	CST	COE	CAFS	COL	COPPS	SOE	COEng	SOAH	SAET	SBI	SJGC	SON	N	Frequency %
Content Knowledge/ Skills	5			1	1	2		5	4		2		1	21	19.27%
Critical Thinking	3			1		1			4		2		1	12	11.01%
Communication	1		1	1	1	3		1	2		2			12	11.01%
Cultural Diversity/ Competence	2							2	1		3			8	7.34%
Ethical Values/ Understanding	2		1			1					2	1		7	6.42%

ETS Comparative Summary of the Performance of FAMU Freshmen to Comparison Groups

Skill Dimension	National Average		Carnegie Comparison Group		HBCU Comparison Group		SUS/ Institutional Peer Group		FAMU Cumulative Results	
	N= 145,535		N= 32,274		N= 10,764		N= 9,783		N=2,017	
	M	SD	M	SD	M	SD	M	SD	M	SD
Total Score	436.40	18.50	441.00	19.70	427.40	13.80	436.70	17.30	431.16	16.23
Critical Thinking	109.50	5.80	110.60	6.20	107.30	4.60	109.40	5.70	107.81	5.19
Reading	115.30	7.00	116.60	7.10	112.70	6.10	115.40	6.90	113.66	6.98
Writing	112.80	5.20	113.90	5.10	111.10	4.60	113.20	4.80	112.20	5.05
Mathematics	111.80	5.70	112.90	6.10	109.20	4.50	111.60	5.50	110.86	5.00
Humanities	112.90	6.10	113.90	6.40	111.00	5.20	112.90	6.00	112.75	5.96
Social Sciences	111.40	6.00	112.40	6.20	109.50	5.10	111.40	5.90	110.33	5.63
Natural Sciences	113.30	5.80	114.20	5.90	111.00	5.00	113.10	5.70	111.60	5.89

ETS Comparative Summary of the Performance of FAMU Seniors to Comparison Groups

Skill Dimension	National Average		Carnegie Peer Group		HBCU Peer Group		SUS/ Institutional Peer Group		FAMU Cumulative Results	
	N= 150,934		N= 26,277		N= 6,461		N= 8,466		N=1,729	
	M	SD	M	SD	M	SD	M	SD	M	SD
Total Score	445.60	20.70	450.00	21.70	433.10	17.80	446.40	20.50	432.59	18.97
Critical Thinking	112.10	6.60	113.00	6.80	108.70	5.60	112.00	6.50	108.50	5.71
Reading	118.40	7.20	119.40	7.10	114.90	7.00	118.50	7.10	114.31	7.24
Writing	114.50	5.20	115.30	5.10	112.10	5.20	114.90	5.10	111.99	5.48
Mathematics	113.70	6.30	115.10	6.70	110.60	5.50	113.90	6.20	111.21	5.72
Humanities	115.40	6.70	116.20	6.80	112.40	5.90	115.30	6.70	113.39	6.38
Social Sciences	113.90	6.50	114.70	6.60	111.10	5.90	113.90	6.40	110.94	6.04
Natural Sciences	115.60	6.00	116.40	6.00	112.60	5.70	115.60	5.90	112.12	5.97

Freshman vs. Senior ETS Proficiency Profile Results

Skill Dimension	FAMU Cumulative Results - Freshman		FAMU Cumulative Results - Seniors	
	N=2,017		N=1,729	
	M	SD	M	SD
Total Score	431.16	16.23	432.59	18.97
Critical Thinking	107.81	5.19	108.50	5.71
Reading	113.66	6.98	114.31	7.24
Writing	112.20	5.05	111.99	5.48
Mathematics	110.86	5.00	111.21	5.72
Humanities	112.75	5.96	113.39	6.38
Social Sciences	110.33	5.63	110.94	6.04
Natural Sciences	111.60	5.89	112.12	14 5.97

Senior Exit Survey

	2011-2012		2012-2013		2013-2014		2014-2015		2015-2016	
Select Items	Total Respondents (n)	% Strongly Agree & Somewhat Agree	Total Respondents (n)	% Strongly Agree & Somewhat Agree	Total Respondents (n)	% Strongly Agree & Somewhat Agree	Total Respondents (n)	% Strongly Agree & Somewhat Agree	Total Respondents (n)	% Strongly Agree & Somewhat Agree
Communication	1995	91.50%	1854	93.10%	1884	94.16%	1973	95.5%	2262	95.0%
Critical Thinking	1996	93.10%	1856	94.56%	1996	95.34%	1975	96.6%	2260	97.0%
Technology Literacy	1997	85.30%	1852	85.10%	1996	86.47%	1972	89.1%	2259	91.0%
Collaboration	1995	91.00%	1850	93.68%	1999	94.90%	1966	96.0%	2257	96.0%
Ethical Values	1995	90.50%	1854	90.99%	1997	91.99%	1968	94.1%	2260	95.0%
Life-long Learning	1993	90.50%	1852	92.22%	1998	93.09%	1963	94.5%	2258	95.0%
Cultural Diversity	1983	89.90%	1843	92.57%	1990	92.76%	1958	94.1%	2260	96.0%

This report provides a summary of exit survey data collected over the last five academic years.

Faculty Planning Conference Survey

- ▶ Oral Communication
- ▶ Written Communication
- ▶ Interpersonal Skills
- ▶ Professionalism
- ▶ Technical
- ▶ Problem-solving
- ▶ Team Work
- ▶ Quantitative
- ▶ Foundational Skills
- ▶ Information Literacy
- ▶ Professional Development

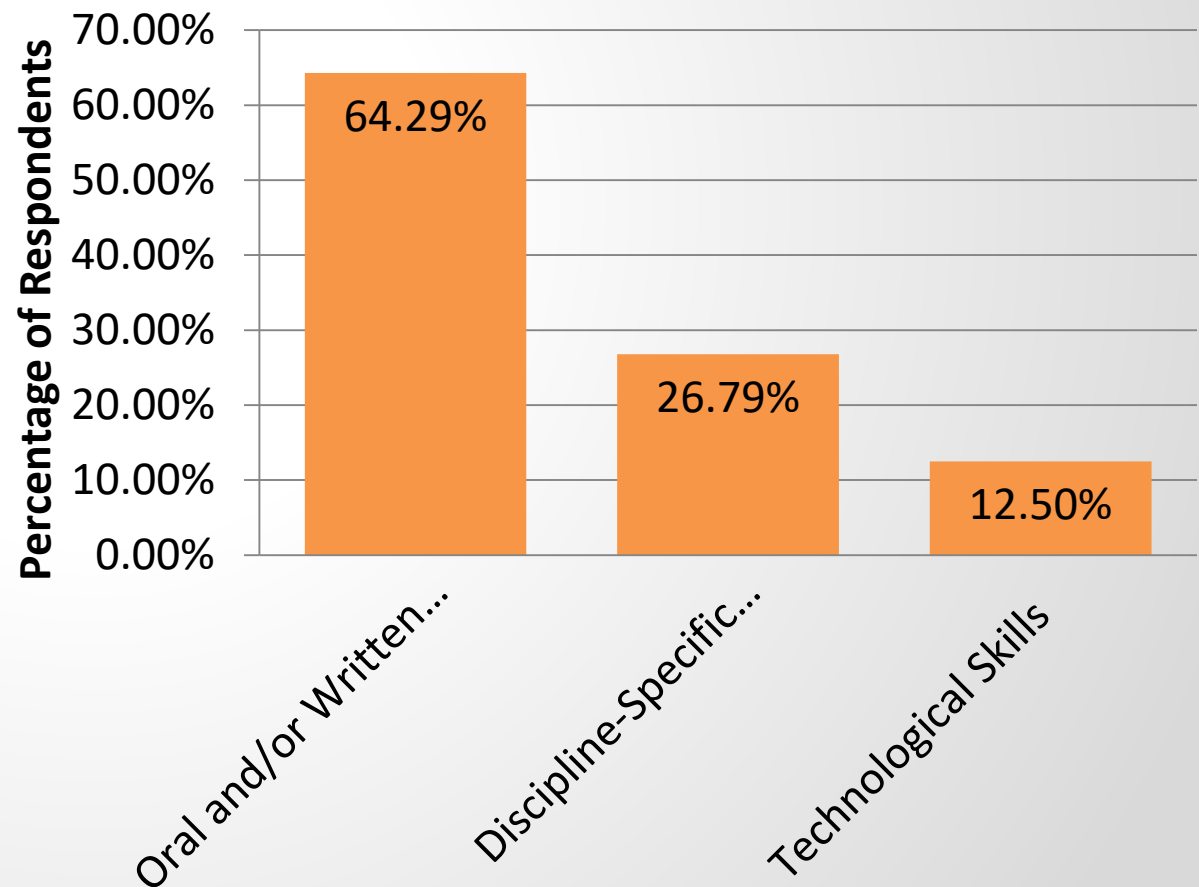
Employer Survey Results

	Percent
Oral Communication	73.58%
Critical Thinking	58.49%
Team Work	56.60%
Problem Solving	55.66%
Written Communication	52.83%
Interpersonal skills	50.00%
Professionalism	50.00%
Technical	29.25%
Content Knowledge	16.04%
Other (If other, please specify)	5.66%

2017 Topic Ranking Survey Results

- ▶ Additional analysis was done to delve further into the results to identify more specific topics that address the performance metrics and strategic plan.
- ▶ The most frequently cited skills for all data sources were Written/Oral Communication, Content Knowledge, Technology, and Cultural Diversity.
- ▶ The QEP Topic Ranking Survey was distributed to stakeholders to identify which of the top 3 themes were most crucial to the success of our students.
- ▶ Oral/Written Communication skills were ranked the highest in priority.

QEP Ranking Survey - Top Priority Theme



Final QEP Topic

- ▶ **Written Communication Skills**
 - To ensure that students have significant opportunities to practice and improve skills to clearly express their thoughts and ideas in writing.



Hazing Prevention Initiatives

PRESENTED BY

Bryan F. Smith, JD

Florida Agricultural and Mechanical University

Hazing Prevention Initiatives

Organizations Having Intake or Recruitment During Spring 2018

- ▶ **NPHC – Alpha Phi Alpha; Kappa Alpha Psi; Sigma Gamma Rho; Zeta Phi Beta; Delta Sigma Theta; Iota Phi Theta**
- ▶ **GAC – Sigma Alpha Iota (Music Sorority); Alpha Chi Sigma (Chemistry); Sigma Lambda Gamma (Latina); Kappa Epsilon (Pharmacy); and Kappa Psi (Pharmacy)**
- ▶ **Clubs & Orgs – Progressive Black Men; National Council of Negro Women; Images Modeling Troupe; and Sistahs**

*** Hazing Prevention Seminars are had with each organization individually**



Hazing Prevention

- ▶ **Facilitated a discussion on Hazing at the “BOG’s Council of Student Affairs/Florida Student Association Health & Wellness Campus Community Summit” on January 23, 2018**
- ▶ **Was selected to the planning committee for the 2018 SUS Hazing Prevention Summit**



AliveTek Hazing Prevention Course

The SUS sponsored “HAZING PREVENTION ONLINE MODULE” IS STILL BEING PROMOTED:

- **FAMU has confirmed 4619 students completed the online certification course**



FLORIDA **A&M** UNIVERSITY



FAMU 2+2 Program Update

PRESENTED BY

William Hudson Jr., Ph.D.

Florida Agricultural and Mechanical University

Division of Student Affairs

Tallahassee, FL 32307

Strategic Plan AA Transfer Headcount Enrollment

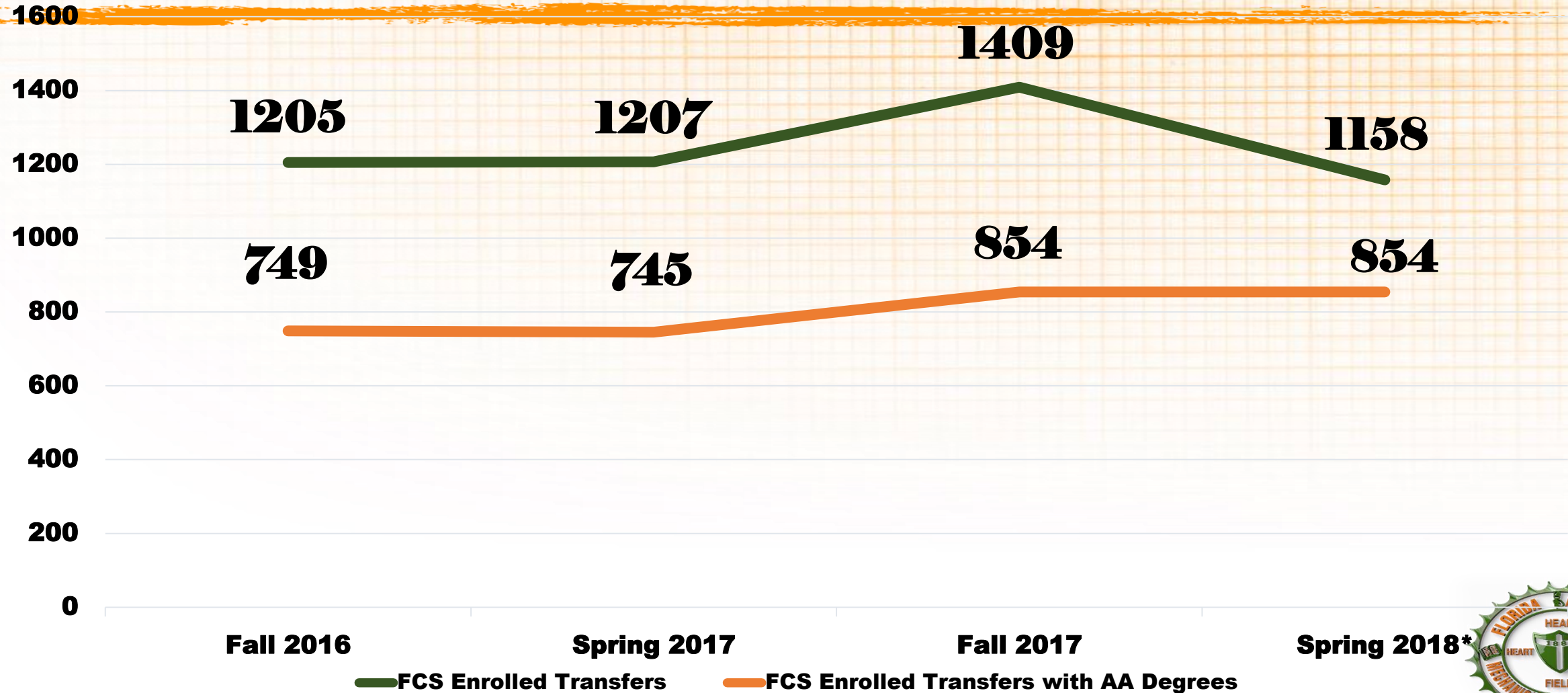
PROJECTED HEADCOUNT



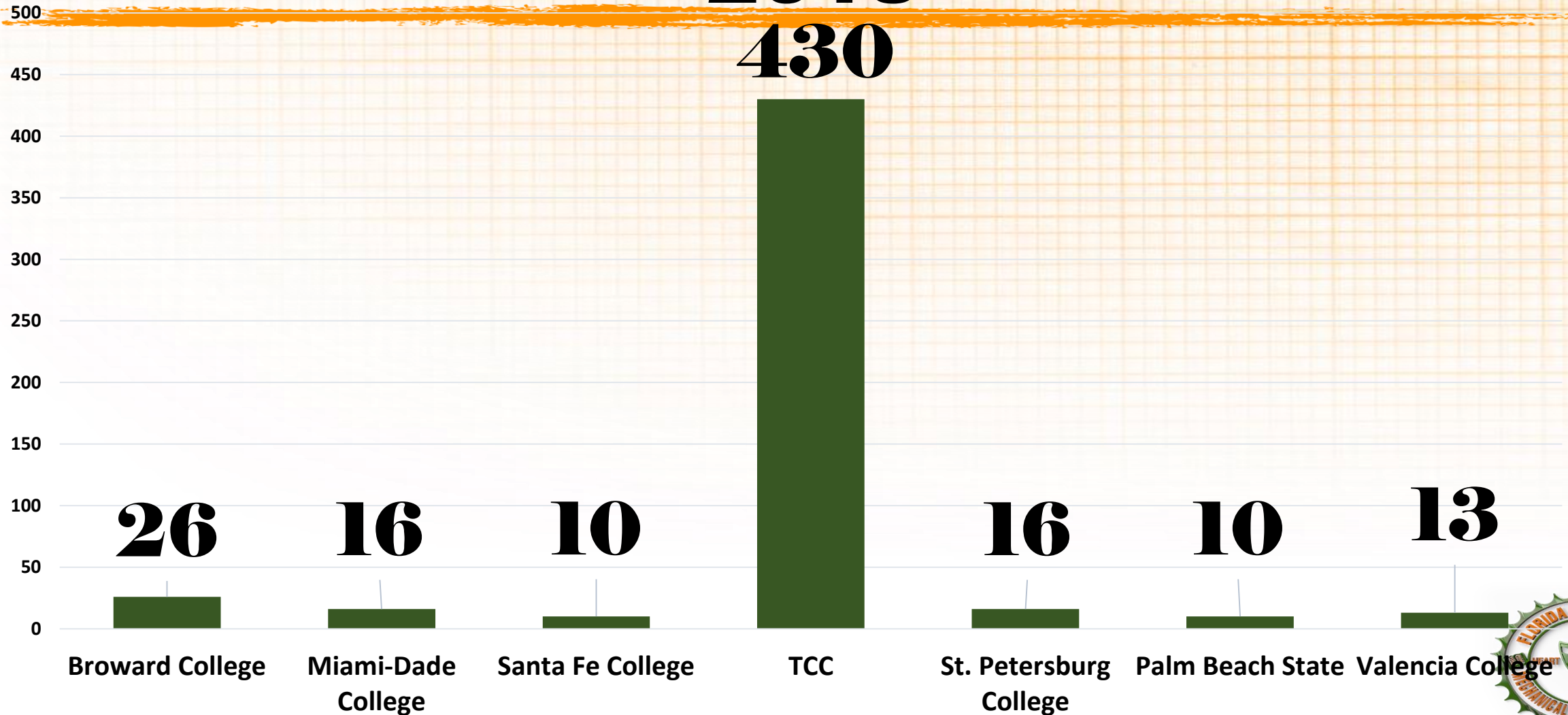
- Headcount of 749 (Actual)
- Headcount of 794 increase by 6.01%
- Headcount of 842 increase by 6.05%
- Headcount of 926 increase by 9.98%
- Headcount of 1018 increase by 9.94%
- Headcount of 1056 increase by 3.37%
- Headcount of 1100 increase by 4.17%



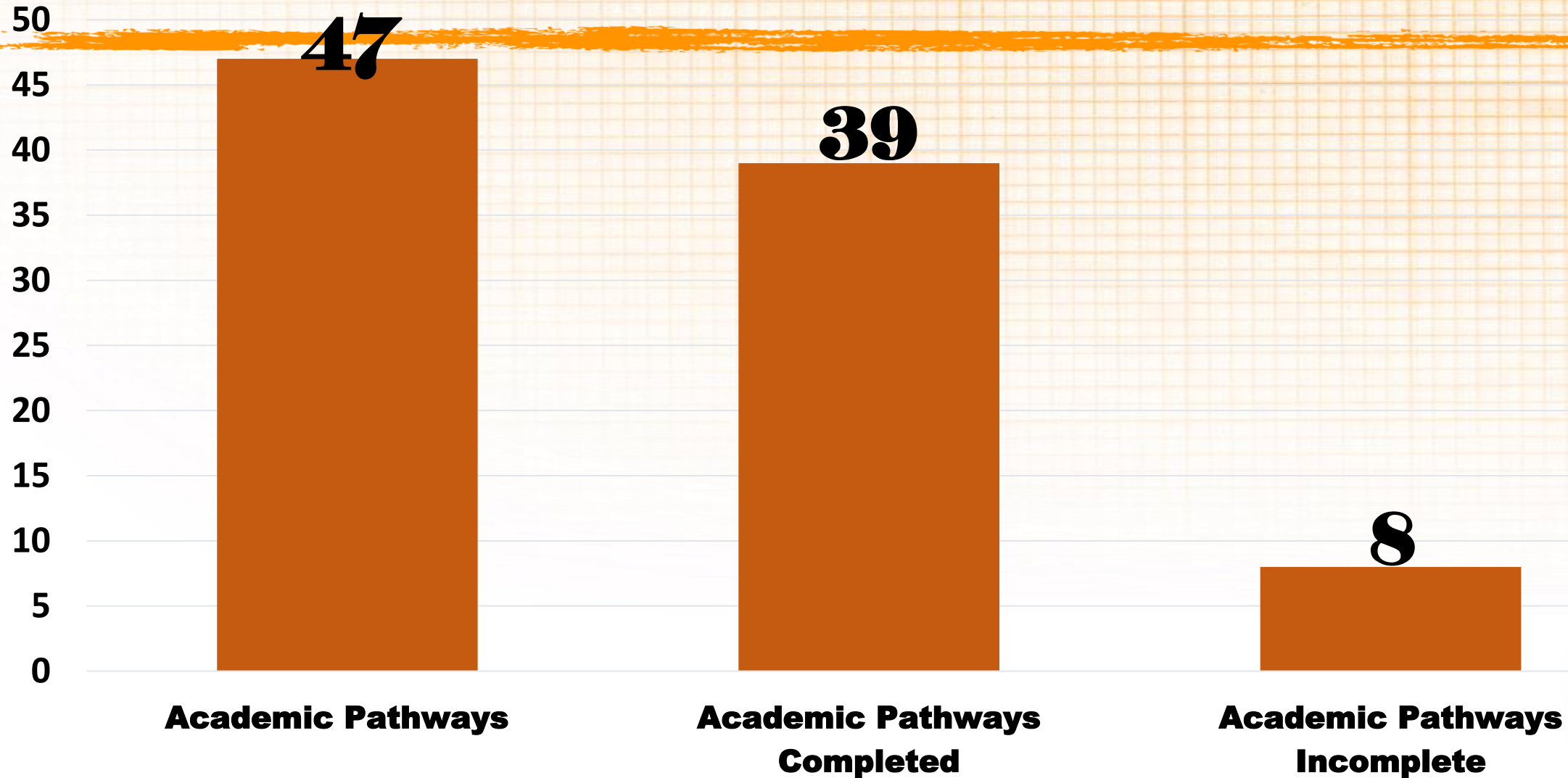
FCS Enrolled Students



IGNITE Participants Spring 2018



Venom Pathways



FAMU IGNITE Program Future Activities

Mar 2018

- Meeting with IGNITE Program Consultants Establish Data Gathering Strategy
- Spring Preview (Recruitment)
- President's Tour
- Campus Visits
 - Broward College (500 students)
 - Palm Beach State College (400)
 - Indian River College (200)
 - Hillsborough Community College (100)
 - Florida Gateway College (100)

April 2018

- Campus Visit
 - Santa Fe College (100)
 - Valencia College (100)
 - Pasco Hernando College (100)
- Meeting with IGNITE Program Consultants
- (2) Transfer Admissions Specialist New Personnel Hire
- Compile data on transfer numbers of students eligible with AA degree (Strategic Plan)

May 2018

- Begin Summer and Fall Orientation Sessions
- Meeting with IGNITE Program Consultants
- FCS AA Scholarship Awards
- Gather data concerning participants in IGNITE at FCS campuses
- Summer and Fall AA Transfer scholarship deadline
- Review Transfer admission numbers (Target completion assessment)





“At FAMU, Great Things Are Happening Every Day.”

established 1887