

BOARD OF TRUSTEES

Academic & Student Affairs Committee Meeting Agenda

**February 7, 2024
8:30 AM – 10:00 AM**

**Florida Polytechnic University
VIRTUAL VIA MICROSOFT TEAMS**

Dial in: 1-863-225-2351 | Conference ID: 649 712 097#

MEMBERS

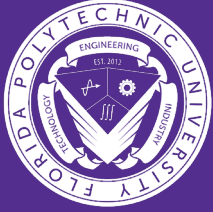
Dr. David Williams, Chair
Lyn Stanfield

Dr. Sidney Theis, Vice Chair
Dr. Ajeet Kaushik

Dr. Dorian Abbot
Melia Rodriguez

AGENDA

- | | | |
|------|--|--|
| I. | Call to Order | Dr. David Williams
Committee Chair |
| II. | Roll Call | Kristen Wharton
Corporate Secretary |
| III. | Public Comment | Dr. David Williams |
| IV. | Approval of the November 6, 2023 Minutes
Action Required | Dr. David Williams |
| V. | 2022-24 Academic & Student Affairs Committee Work Plan Review | Dr. Terry Parker
EVP & Provost |
| VI. | Provost's Report | Dr. Terry Parker |
| | A. Proposal for a Master of Science in Electrical Engineering Degree Program (14.1001)
Action Required | |
| VII. | Closing Remarks and Adjournment | Dr. David Williams |



Academic & Student Affairs Committee Meeting Minutes

DRAFT MEETING MINUTES

**November 6, 2023
10:30 AM – 12:00 PM**

Florida Polytechnic University VIRTUAL VIA MICROSOFT TEAMS

I. Call to Order

Committee Chair David Williams called the Academic and Student Affairs Committee meeting to order at 10:30 a.m.

II. Roll Call

Kristen Wharton called the roll: Committee Chair David Williams, Committee Vice Chair Narendra Kini, Trustee Melia Rodriguez, Trustee Ajeet Kaushik, and Trustee Laine Powell were present (Quorum)

Committee members not present: Trustee Lyn Stanfield

Other Trustees Present: Board Chair Cliff Otto, Trustee Mark Bostick, Trustee Sidney Theis, Trustee Ilya Shapiro

Staff Present: President Randy Avent, Provost Terry Parker, Dr. Allen Bottorff, David Fugett, David Blanton, Mike Dieckmann, Kristen Wharton, Melaine Schmiz, Dr. Kathryn Miller, Dr. Marc Manganaro, Dee Voss, and Kevin Calkins

III. Public Comment

There were no requests received for public comment.

IV. Approval of the September 21, 2023, Minutes

Trustee Melia Rodriguez motioned to approve the Academic and Student Affairs Committee meeting minutes of September 21, 2023. Trustee Narendra Kini seconded the motion; a vote was taken, and the motion passed unanimously.

V. Academic and Student Affairs Work Plan 2022-2024

Committee Chair Dave Williams reviewed the Academic and Student Affairs Committee Work Plan. There was no discussion on this item.

VI. Provost's Report

A. M.S. in Electrical and Computer Engineering Program

Provost Terry Parker explained the proposal to split the Engineering Master's program which currently has two tracks: Mechanical and Electrical, into traditional named degrees aligned with the Programs of Strategic Emphasis (PSE) list from the Board of Governors.

A motion was made by Trustee Narendra Kini to recommend to the Board of Trustees approval of the development of a Masters of Science in Electrical and Computer Engineering degree program, CIP code (14.1001). Trustee Melia Rodriguez seconded the motion; a vote was taken, and the motion passed unanimously.

B. Florida Industrial and Phosphate Research Institute (FIPR) Annual Report FY23

Provost Parker presented the annual report for the Florida Industrial and Phosphate Research Institute (FIPR). He reviewed the Institute's four primary research areas along with key highlights for the past year. Severance tax income for the Institute has been falling over the past four years. For FY23, the Institute received \$1,797,800 in total income, incurred \$1,686,668 in expenses, netting \$21,132. Committee Chair Williams asked if the income is fully overhead bearing to which Provost Parker replied in the affirmative, noting it is exceptionally low.

A motion was made by Trustee Melia Rodriguez to recommend approval of the Florida Industrial Phosphate and Research Institute Annual Report for fiscal year 2023 to the Board of Trustees. Trustee Narendra Kini seconded the motion; a vote was taken, and the motion passed unanimously.

C. Advanced Mobility Institute (AMI) Annual Report FY23

President Randy Avent presented the annual report for the Advanced Mobility Institute (AMI). He provided a brief history of AMI and noted the Institute focuses on the validation and verification of autonomous vehicle technology. In FY23, AMI built an open-source digital twin called PolyVerif, and distributed it to several university, government, and industry partners where it is gaining interest. Financially, the Institute started FY23 with a balance of \$339,705 and expended \$149,213 leaving a year-end balance of \$190,491.

A motion was made by Trustee Ajeet Kaushik to recommend approval of the Advanced Mobility Institute Annual Report for fiscal year 2023 to the Board of Trustees. Trustee Melia Rodriguez seconded the motion; a vote was taken, and the motion passed unanimously.

Provost Parker continued with the rest of his report.

Changes as a result of SB 7044 require the University to change its institutional accreditation agency. Florida Poly has fully submitted the documents required by the U.S. Department of Education to request a change from SACSCOC to HLC. The University is awaiting the USDE's decision.

Four ABET accredited programs are slated for reaccreditation this year. Additionally, Florida Poly will seek initial accreditation for two programs: Environmental Engineering and Data Science. Self-study reports for each program will be submitted before July 1, 2024.

Provost Parker reviewed historical data on University enrollment and stated a significant expected growth trajectory in fall 2024 when Residence Hall III opens. He also reviewed data on various student entry paths; changes in enrollment leadership with the hiring of Dee Voss, Interim Vice Provost Enrollment Management; and strategic changes in marketing resulting in an 83% increase in applications as of October 27, 2023.

Vice Provost Kathryn Miller presented information on the student experience covering health and wellness, campus recreation, student experience, housing, and career and library services.

Trustee Narendra Kini asked Trustee Melia Rodriguez if there are gaps between students' needs versus wants that can be addressed for next year. Trustee Rodriguez stated a good working relationship exists between SGA and Administration. Current expressed student wants include additional parking on campus, additional athletic fields, and more storage spaces on campus.

Provost Parker presented a high-level review of Performance Based Funding (PBF) and reviewed programs and activities being utilized to improve Academic Progression Rate (APR) and four-year graduation rates. He also provided a high-level overview of Florida Poly's degree programs, faculty demographic and distribution by department, faculty hiring needs based on both student and degree growth, and technology and pedagogy.

VII. Closing Remarks and Adjournment

With no further business to discuss the meeting adjourned at 11:45 a.m.

Respectfully submitted:
Kristen J. Wharton
Corporate Secretary

**Florida Polytechnic University
Academic and Student Affairs Committee
Board of Trustees
February 7, 2024**

Subject: 2022-2024 Academic and Student Affairs Committee Work Plan

Proposed Committee Action

Review only. No action required.

Background Information

Provost Terry Parker will review the Committee's 2022-2024 Work Plan.

Supporting Documentation: Academic and Student Affairs Committee Work Plan 2022-2024

Prepared by: Dr. Terry Parker, Provost and Executive Vice President



Committee Work Plan

Academic & Student Affairs Committee Work Plan 2022-2024

SEPTEMBER

- Academic & Student Affairs Committee Charter (*review and approve every two years – due September 2022*)
- Civil Discourse: Review of student orientation programming and student code of conduct (*completed - September 2022*)
- Annual Textbook and Instructional Materials Affordability Report (*review and approve*)
- Renewal of Out of State Fee Waiver (*review and approve as needed*)
- Institutional Accreditation Activity (*review as needed*)
- Admissions and Financial Aid (*review as needed*)
- Student Affairs (*review as needed*)
- Four-year graduation improvement plan (*review as needed*)
- Degree Program Additions and Faculty Hiring (*review as needed*)
- Student and Faculty Demographics (*review as needed*)
- Graduate programs (*review as needed*)
- Technology and Pedagogy (*review as needed*)

NOVEMBER

- Advanced Mobility Institute Annual Report (*review and approve*)
- FIPR Institute Annual Report (*review and approve*)
- FIPR Institute Seven-Year Review (*completed – November 2022*)
- SB266: Review and Approve General Education Course Requirements
- Institutional Accreditation Activity (*review as needed*)
- Admissions and Financial Aid (*review as needed*)
- Student Affairs (*review as needed*)
- Four-year graduation improvement plan (*review as needed*)
- Degree Program Additions and Faculty Hiring (*review as needed*)
- Student and Faculty Demographics (*review as needed*)
- Graduate programs (*review as needed*)
- Technology and Pedagogy (*review as needed*)

FEBRUARY

- CITF Increase, Inc. to Existing Fees or New Fees (*review and approve only if changes are proposed*)
- Academic Calendar (AY+1 and AY+2) (*review and approve*)
- Institutional Accreditation Activity (*review as needed*)
- Admissions and Financial Aid (*review as needed*)
- Student Affairs (*review as needed*)
- Four-year graduation improvement plan (*review as needed*)
- Degree Program Additions and Faculty Hiring (*review as needed*)
- Student and Faculty Demographics (*review as needed*)
- Graduate programs (*review as needed*)
- Technology and Pedagogy (*review as needed*)

APRIL

- University Accountability Report *(review and approve)*

JUNE

- Institutional Accreditation Activity *(review as needed)*
- Admissions and Financial Aid *(review as needed)*
- Student Affairs *(review as needed)*
- Four-year graduation improvement plan *(review as needed)*
- Degree Program Additions and Faculty Hiring *(review as needed)*
- Student and Faculty Demographics *(review as needed)*
- Graduate programs *(review as needed)*
- Technology and Pedagogy *(review as needed)*

**Florida Polytechnic University
Academic and Student Affairs Committee
Board of Trustees
February 7, 2024**

Subject: M.S. in Electrical Engineering Program

Proposed Committee Action

Motion to recommend to the Board of Trustees approval of development of a Master of Science in Electrical and Computer Engineering degree program, CIP code (14.1001), and to give the Board of Trustees Chair authority to approve all non-substantive changes to the proposal that are made to conform to Board of Governors format requirements.

Background Information

Currently the Engineering Master's program has two tracks: Mechanical, and Electrical and Computer Engineering. In the November BOT meeting, a pre-proposal was approved to move forward with a formal proposal to separate these two tracks into two distinct programs: Mechanical, and Electrical Engineering. Both operate with a thesis option and a course only option, with a common set of two technical classes. Separating these two tracks into distinct programs will not require additional academic resources.

This formal proposal for a new Master of Science degree program in Electrical Engineering (CIP code: 14.1001). Once approved and adopted at the state level, the University will formally move the existing Master of Science in Engineering program to a Master of Science in Mechanical Engineering. The Electrical and Mechanical Engineering Master degrees are Programs of Strategic Emphasis as approved by the Board of Governors at its November 2023 meeting.

The net effect of these actions will be to:

- Deliver an MS in Electrical Engineering (CIP 14.1001)
- Deliver an MS in Mechanical Engineering (CIP 14.1901)

Supporting Documentation: M.S. Electrical Engineering Proposal

Prepared by: Dr. Terry Parker, Executive Vice President and Provost

**Proposal template for State University System Degrees:
Bachelors Degrees and Masters Degrees**

Date of Approval by Florida Poly BOT	
Provost Name	
Provost Signature	
BOT Chairperson Name	
BOT Chairperson Signature	

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Estimate of Investment **Error! Bookmark not defined.**

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Degree:
Florida Polytechnic University Master of Science in Electrical Engineering

Institution	Florida Polytechnic University		
Degree Program Title (e.g. M.A. in Biology)	Masters of Science in Electrical Engineering		
CIP Code	14.1001		
Proposed Delivery Mode (% online, if applicable)	Face-to-Face: <50% distance		
Enrollment Projections (Headcount): Year 1 and Year 5	Year 1: 10 Year 5: 25		
Proposed Implementation Date (e.g. Fall 2017)	Fall 2024		
Emphasis: (STEM, Health, Global, other)	STEM		
Other Programs in the SUS (Including Enrollment and Degrees):	UNIV	Headcount, 5-Yr Avg.	Degrees, 5-yr Avg
	FAMU	3	3
	FAU	18	9
	FIU	32	37
	FSU	20	14
	UCF	44	50
	UF	546	139
	UNF	9	2
	USF	160	97
	SUS	832	351

Criteria for New Degree Programs

Institutional and State-Level Accountability

Florida Poly’s proposed Master of Science in Electrical Engineering degree program supports the SUS Strategic plan 2025 Goals for the state universities by:

- Increasing the number of degrees awarded in an area of strategic emphasis
- Increase potential for commercialization activity
- Strengthen the quality and recognition of commitment to community and business engagement.

The program lies squarely within the mission of Florida Polytechnic University to “serve students and industry through excellence in education, discovery, and application of

engineering and applied sciences.” The Masters of Science in Electrical Engineering provides an avenue for continuing and new students from a range of closely related engineering disciplines to advance their careers. This degree includes advanced courses and a strong background focused in technical areas with the end goal of creating technical proficiency and competency beyond that provided in foundational bachelor's degrees. The program further supports the University's strategic plan priorities around degree alignment and growing the graduate program in engineering and STEM-related fields.

The master's degree in Electrical Engineering strategically supports the state's economy by preparing graduate students for jobs that are needed and prepares students for positions that are in high demand and are also high wage. As a benefit to the student, their community and the state of Florida, this master's degree opens up job progress and specialization to a student, preparing them to contribute in specialized industries such as cyber physical security, autonomous and hybrid vehicles and associated supporting technologies, robotics and automation, and many facets of the aerospace industry. Further, students are prepared to enter doctorate programs.

Student and Workforce Demand

There is a demonstrated need for more individuals to be educated at the master's degree level in Electrical Engineering.

Workforce requirements for the degree

The Florida Poly Master of Science in Electrical Engineering degree program strategically supports the state's economy by preparing graduate students for jobs that are needed and will be needed in Florida. As outlined in JobsEQ Electrical Engineering, over the last year there were 513 job openings in Florida for a Master's Degree in Electrical Engineering (DEO predicts these will grow at 15.8% and 10.8% respectively). Not only are these positions considered in high-demand, but they can also be considered high-wage as they provide a salary above the mean salary in Florida and in many cases significantly more (BLS). Examples include Electrical Engineers with an average salary of \$100,650 and specifically Network and Computer Systems Administrators with an average salary of \$91,620 (BLS).

Student demand for degree

A Master of Science in Electrical Engineering program of study provides increased opportunity and potential for career progression for a student. It can help a student apply for more advanced technical or leadership positions or it can be an important part of promotion at their current company. The Master of Science in Electrical Engineering program also prepares students for PhD programs in engineering which are programs of strategic emphasis in the State University System of Florida.

The Master of Science in Electrical Engineering program will primarily attract Florida Poly alumni who are seeking to continue their education with specialization and further

depth of learning in electrical engineering topics. We currently offer a Master of Science in Engineering with a track in Electrical Engineering. The proposed program replaces the M.S. Engineering Electrical Track degree. On average, the Admissions department receives between 50 and 60 applications each year for that track.

Projected Student Headcount:

**PROJECTED HEADCOUNT FROM POTENTIAL SOURCES
(Graduate Degree Program)**

Source of Students (Non-duplicated headcount in any given year)*	Year 1 HC	Year 1 FTE	Year 2 HC	Year 2 FTE	Year 3 HC	Year 3 FTE	Year 4 HC	Year 4 FTE	Year 5 HC	Year 5 FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	5	3.75	0	0	0	0	0	0	8	6
Students who transfer from other graduate programs within the university**	1	0.75	0	0	0	0	0	0	2	1.5
Individuals who have recently graduated from preceding degree programs at this university	1	0.75	0	0	0	0	0	0	5	3.75
Individuals who graduated from preceding degree programs at other Florida public universities	1	0.75	0	0	0	0	0	0	2	1.5
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	2	1.5
Additional foreign residents***	2	1.5	0	0	0	0	0	0	6	4.5
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
Totals	10	7.5	13	9.75	16	12	20	15	25	18.75

* 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.

Duplication of Existing Programs

Florida Poly’s addition of a Master of Science in Electrical Engineering does not unnecessarily duplicate existing degree programs in Florida.

Florida Poly collaborates with engineering programs throughout the state university system in multiple ways, including collaboration on purchasing library resources, state-wide career fairs, participation in Dean’s meetings, as well as participation in the Council of Academic Vice Presidents.

With the various statewide collaborations, Florida Poly continues to offer a unique master’s level learning opportunity for students. The Florida Poly Master of Science in Electrical Engineering provides appropriate breadth coursework and then unique focus areas such as Power and Controls, Hardware with a Cyber Physical Security applications, and Hardware/Software Systems critical to autonomous vehicles. In

addition, the program requires graduate business electives which are offered out of the Engineering Management program, allowing students to gain a competitive edge by providing a unique view through a managerial lens which connects their technical learning with the workplace. As Florida Poly does not offer doctoral programs, students who graduate with a Master of Science in Electrical Engineering may serve as a pipeline to other Florida state university PhD programs.

This Master of Science in Electrical Engineering is a natural extension of one of our undergraduate degrees and we expect many of our own students to take advantage of the opportunity that the degree provides. Graduate Admissions focuses in part on internal recruitment of Florida Poly current seniors and alumni, which is evidenced by the admission requirements; Florida Poly bachelor's graduates receive several admission benefits, including letter of recommendation waivers and a lower minimum GPA threshold compared to external candidates. We also expect students to take advantage of our 4+1 pipeline, who would likely otherwise simply enter the workforce. For highly talented Florida Poly seniors, this is a benefit because it provides them with a pathway for job progression (or possibly for degree progression) that they otherwise may not have.

It should further be noted that each university in the state university system offers students a unique student experience; each university also offers its own technical focus. Students are drawn to Florida Poly for several reasons - the 100% STEM focus, the smaller campus community environment, and significant opportunities for graduate student aid.

Curriculum

The Florida Poly Master of Science in Electrical Engineering degree program has an appropriate sequenced course of study with expected learning outcomes and appropriate industry-driven competencies.

Degree Requirements

A minimum of thirty (30) hours are required for the master's degree. The Master of Science in Electrical Engineering is designed to provide students with a specialized core understanding of electrical engineering, and then branch out to incorporate elective higher-level application of varied engineering topics including computer engineering. All students must complete twelve (12) hours of core courses. Course work only students complete 12 credits of technical electives and six (6) hours of Engineering Management electives. Thesis students complete nine (9) hours of Electrical Engineering elective courses, three (3) hours of Engineering Management electives, and six (6) hours of Culminating Experience resulting in a thesis.

Core (12 credits):

EGN 5470 - Advanced Engineering Math (3)

COP 5090 - Scientific Computation and Programming (3)

EEL 5613 - Modern Control (3)

EEE 5507 - Advanced Digital Signal Processing (3)

Technical Electives (12 credits coursework only, 9 credits thesis):

9 credits Electrical Engineering Electives:

EEL 5245 - Power Electronics (3)

CDA 5216 - Advanced VLSI Design (3)

EEL 5457 - Advanced Optoelectronics (3)

EEL 5741C - Microcomputers (3)

EEL 5235 - Electronic Motor Control (3)

EEL 5820 - Digital Image Processing (3)

EEE 5311 - Analog IC Design (3)

EEL 5685C - Embedded Control (3)

EEL 5250 - Power System Analysis (3)

EEL 5521 - Advanced Digital Communications (3)

EEL 5668C - Advanced Kinematics and Control of Robotic Systems (3)

EEL 5669C - Autonomous Robotic Systems (3)

Engineering Management Electives (6 credits coursework only, 3 credits thesis):

EGS 5626 - Engineering Project Management (3)

FIN 5406 - Financial Decision Making (3)

ECP 5007 - Economic Analysis for Technologists (3)

MAN 6636 - Global Strategic Management & Leadership (3)

CAP 5735 - Data Visualization and Reproducible Research (3)

Culminating Experience (Thesis only, 6 credits):

Thesis program requirements:

EGN 5915 - Research Methods (3)

EGN 5970 - Thesis 1 (2)

EGN 5975 - Thesis 2 (1)

Program Learning Outcomes

Upon completion of the Master of Science in Electrical Engineering degree, students are expected to demonstrate the following:

1. an ability to identify, formulate, and solve engineering problems of single or multidisciplinary nature by applying principles of engineering, science, mathematics, and analytics;
2. an ability to acquire and apply knowledge using appropriate, discipline-based learning strategies drawn from relevant coursework and/or research;
3. an ability to apply business fundamentals, develop professional skills, and address complex challenges in the current climate of STEM fields.

Students in the thesis program are also expected to demonstrate the following:

- a) an ability to develop methodology of the proposed body of research that produces solutions and further inquiry;
- b) an ability to develop and conduct appropriate experimentation with a systematic approach, analyze and interpret data, and use foundations of engineering to draw conclusions.

1. Assessment and Workforce Alignment

Florida Poly has a regularized strategy for assessing student learning and reviewing academic-workforce alignment to modify curriculum as needed.

Assessment of Instruction

Instruction is assessed at the close of each semester. All programs go through a course assessment process where course pre-requisites and requirements are reviewed for consistency across the disciplines. This assessment includes data gathering, faculty reflection on the delivery and outcomes of the course, and notes on how well the stated course outcomes are achieved. The assessment process includes faculty adding their semester course information into a course folder and their reflection upon and evaluation of the success of the course curricula and instructional methods. Completion of the course folder is required of faculty at the end of each semester and is overseen by department chairs and institutional research.

Review of academic-workforce alignment to modify the curriculum, as needed.

Florida Poly has made a concentrated effort to align the needs of the workforce with the courses that are offered at the university. The university put together a Curriculum Advisory Board for each major that consists of industry leaders, faculty, and alumni. This committee serves as thought leaders that can speak on what is currently happening within the industry and make suggestions on what programs, content, skills, etc. that are needed for candidates to be successful in the workforce. This board met in 2018, did not meet during COVID, and a new board will meet again in 2024.

2. Admissions and Graduation Criteria

Admission and graduation criteria are clear and consistent with similar programs.

Admissions criteria

Admission to the masters-level programs at Florida Poly is a selective, multi-step process beginning with initial screening in the Office of Admissions, followed by review and decision at the academic department (program) level.

Factors considered in making admissions decisions include, but may not be limited to, the following:

- (a) The quality of the applicant's undergraduate and/or graduate work done at all previous institutions attended;
- (b) Undergraduate and/or graduate grade point averages, and performance in specific major-related courses;
- (c) The motivation and attitude of the applicant as determined by the applicant's personal statement, letters of reference and/or a personal interview or other means.

Florida Poly regulation [FPU-2.008](#) Graduate Admissions details this and other related information.

Students are evaluated for admission to the masters-level program based on their chosen pathway. Typically, an applicant's undergraduate GPA must be a 3.00 or better. Florida Poly current students and alumni receive the benefit of a lower minimum GPA threshold of 2.75. Florida Poly students are also offered letter of recommendation waivers, given the small size of the campus.

Admission to the Master of Science in Electrical Engineering is reviewed based on three pathways:

- A. Course-Only Pathway
- B. Thesis Pathway
- C. 4+1 Pathway

The pathways are designed to meet the varying needs of students. Thesis students tend to be interested in future doctoral study, or plan to work in a research or design/development industry, while Course-Only and 4+1 students usually plan to enter the workforce as soon as possible.

A. Course-Only Pathway Admission Requirements:

- Bachelor's degree earned in electrical engineering, computer engineering, electronics and communication, or a closely related field
- 3.0 GPA (2.75 GPA for Florida Poly graduates) in core technical courses. Core technical courses in the major will be specifically evaluated for admission consideration.
- 2 letters of recommendation from prior faculty or supervisor (waived for Florida Poly students and alumni)
- Additional materials at the discretion of the department
- Additional requirements for international students:
 - Course-by-course foreign credential evaluation through one of the following:
 - [World Education Services](#) (WES)
 - [Academic Evaluation Services](#) (AES)
 - [Academic Credentials Evaluation Institute, Inc.](#) (ACEI)
 - [Josef Silny & Associates, Inc](#)
 - English proficiency through TOEFL or IELTS

B. Thesis Pathway Admission Requirements (must satisfy the Course-Only requirements and the following):

- Statement of research interest areas, and prior experience in research and publication, as applicable
- Interview or additional materials at the discretion of the department

C. 4+1 Pathway Admission Requirements (Florida Poly students only):

The 4+1 pathway is an opportunity for academically talented undergraduate Florida Poly students, who are ahead in their bachelor's progression, to enroll in two graduate-level courses in their senior year. Courses do not double-count for the bachelor's and master's degrees. A student must earn 120 unique undergraduate credits and 30 unique graduate credits. 4+1 admission requires that a student must be a current Florida Poly student who:

- Holds a 3.25 GPA or higher with no more than 24 credit hours remaining to complete their undergraduate degree at the start of senior year.
- Has room in their senior schedule to add 2 graduate-level courses (one each semester), with no more than 12 undergraduate credits + 3 graduate credits in a given semester.
- Can balance their undergraduate and graduate studies, without delaying or impeding their undergraduate completion. Students should expect to dedicate 5-10 hours per week outside of the classroom for each graduate course enrolled.
- Is not over the excess credit hour threshold for their undergraduate degree.
- Understands and agrees to all financial aid implications, including any additional charges in their senior year.

Graduation Criteria

All graduate students must complete the 30-credit program with a GPA of 3.0 or better and at least 2/3 of the credits applied toward the degree must come from the University. Other specific requirements may be imposed depending on the student's background or preparation (e.g. courses for leveling in mathematics or coding that may not count toward the credits for the degree). All work must be completed within the 6-year period immediately preceding the degree conferral. Florida Poly Policy [FPU-5.0096A](#) delineates these and other requirements.

The Master of Science in Electrical Engineering requires 30 credit hours and may be completed in one of the three pathways identified in the Admissions process:

- a) The accelerated Course-Only pathway does not require a thesis, but instead students must complete all coursework required to earn their degree. Course-Only students complete the program at an accelerated pace in 10.5 months (Fall, Spring, and Summer A).
- b) The Thesis pathway is a two-year program culminating in a thesis package (e.g.,

written thesis document per Florida Poly guidelines, formal oral thesis defense presentation to the university community) based on the student's original research guided by their faculty advisor. Students must also meet the requirements for thesis submission and defense before the degree is granted.

- c) The 4+1 pathway, which directly targets high-achieving Florida Poly students, requires two graduate-level courses in the undergraduate senior year. Following undergraduate graduation, 4+1 students proceed to full-time graduate study with an adjusted Course-Only progression and earn the degree in two semesters (Fall and Spring).

3. Program Delivery

Delivery format for the masters-level program is primarily face-to-face, with 80% or more of the program delivered in person, on campus.

4. Scholarships, Internships and Assistantships

Scholarships and assistantships are determined at the time of admission, based on a student's pathway. Internship opportunities are available but not required for the program.

Scholarships and Assistantships relate to the student's pathway.

Course-Only Pathway: Course-Only pathway students qualify for a merit-based scholarship of up to \$8,000.

Thesis Pathway: Thesis pathway students are offered a Graduate Assistantship which includes a full tuition waiver and a \$4,000 stipend per term. Assistantships are highly competitive and limited in number.

4+1 Pathway: 4+1 students are eligible to enroll in 6 graduate credit hours in their undergraduate senior year. In senior year 4+1 students will pay a rate, discounted to our undergraduate tuition rate, of \$164.65/credit hour for the two graduate courses taken in senior year; we call this rate adjustment the "4+1 discount." The 4+1 discount is valued at a total of \$1,847.58 for the two courses. After earning the bachelor's degree, 4+1 students are charged graduate tuition and fees, and become eligible for graduate aid. As a benefit to the 4+1, students receive the highest possible admission scholarship of \$8,000, and proceed to full graduate study as a Course-Only student.

Internships

Graduate curriculum may include an optional professional experience taken in summer semester. Students in these programs may take *EGN 5911 – Research* as part of their programs if recommended by either their department chair or advisor and approved by the Graduate Division Director. The course description is as follows:

Intended for enrollment in ongoing research work, as well as preparation for thesis. May include a professional experience with a company or external organization. May be repeated one time.

This course enables the University to provide critical professional experience for students, particularly those who come straight from an undergraduate program, and improve the quality and marketability of their master’s degree experience. This course may also be used to fulfill guidelines for Curricular Practical Training (CPT).

Sufficient Faculty

The Master in Electrical Engineering degree program has sufficient qualified faculty available to initiate the program.

The program will be delivered primarily by current Florida Poly faculty in the Electrical Engineering department. An additional four faculty positions are planned for 2024-2028, and these additional faculty positions will aid in support of the proposed graduate program.

- Florida Poly currently has 8 faculty members in the Electrical and Computer Engineering department.
- Florida Poly is currently advertising for 4 Electrical Engineering faculty positions we are looking to fill.

Anticipated Faculty Participation

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Specialty	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	M. Rashid, Ph.D Electrical Engineering	Prof.	MYA	Fall 2024	9	0.75	0.22	0.17	9	0.75	0.22	0.17
A	M.Ullah, Ph.D. Electrical Engineering	Assoc. Prof.	MYA	Fall 2024	9	0.75	0.22	0.17	9	0.75	0.22	0.17
A	O. Toker, Ph.D Electrical Engineering	Assoc. Prof.	MYA	Fall 2024	9	0.75	0.22	0.17	9	0.75	0.22	0.17
A	M. Khalghani, Ph.D. Electrical Engineering	Asst. Prof.	MYA	Fall 2024	9	0.75	0.22	0.17	9	0.75	0.22	0.17
A	B. Chandrasekaran, Ph.D. Electrical Engineering	Asst. Prof.	MYA	Fall 2024	9	0.75	0.44	0.33	9	0.75	0.44	0.33
A	A. Sakib, Ph.D. Electrical Engineering	Asst. Prof.	MYA	Fall 2024	9	0.75	0.22	0.17	9	0.75	0.22	0.17
A	R. Adla, Ph.D. Electrical Engineering	Asst. Prof.	MYA	Fall 2024	9	0.75	0.22	0.17	9	0.75	0.22	0.17
A	S. Ramabhotia, Ph.D Electrical Engineering	Asst. Prof.	MYA	Fall 2024	9	0.75	0.22	0.17	9	0.75	0.22	0.17
B	New Hire, Ph.D. Electrical Engineering	Assoc. Prof.	MYA	Expected Fall 2024	9	0.75	0.00	0.00	9	0.75	0.44	0.33
B	New Hire, Ph.D. Electrical Engineering	Asst. Prof.	MYA	Expected Fall 2024	9	0.75	0.00	0.00	9	0.75	0.44	0.33
B	New Hire, Ph.D. Electrical Engineering	Asst. Prof.	MYA	Expected Fall 2024	9	0.75	0.00	0.00	9	0.75	0.44	0.33
B	New Hire, Ph.D. Electrical Engineering	Prof.	MYA	Expected Fall 2024	9	0.75	0.00	0.00	9	0.75	0.44	0.33
Total Person-Years (PY)								1.49				2.81

Faculty Code	Code Description	Source of Funding	PY Workload by Budget Classification	
			Year 1	Year 5
A	Existing faculty on a regular line	Current Education & General Revenue	1.49	1.49
B	New faculty to be hired on a vacant line	Current Education & General Revenue	0.00	1.32
C	New faculty to be hired on a new line	New Education & General Revenue	0.00	0.00

The Electrical and Computer Engineering faculty's productivity in teaching, research and service is summarized:

- All faculty are required to teach up to 4 classes (12 credits) a semester. Service credit can be earned as 1 credit hour for 3 contact hours. The practice within the ECE Department is to deliver 9 credit hours of teaching, and approximately 3 credit hours dedicated to research.
- ECE department submits approximately 7-8 externally funded research proposals a year including federal sponsors, state departments, nonprofits, and private businesses.
- Research expenditures for the ECE department were approximately \$364K in FY23.
- Anticipated research expenditures for ECE for FY24 is over \$400K.

Florida Poly is not looking to support a doctoral program at this time.

Estimate of Investment

The institution is redirecting resources to support the new program by dividing the current, more generalized, Master of Science in Engineering to more specific master-level programs. The more specific programs will align with the Engineering department titles and functions within the University. This redirection will not have a negative impact on Engineering or other programs at the University.

Projected costs for the Master of Science in Electrical Engineering degree program also include Graduate Assistantships. Four Graduate Assistantships are expected in Year 1. Graduate Assistantships offer a full tuition waiver and a biweekly stipend of \$4,000.00 per semester. The Graduate Assistantship program is used as a recruitment tool and a way for faculty to secure instructional assistance. As the assistantship is only available to Thesis students, maintaining eligibility for the assistantship requires adequate progress in developing the written work, which serves as an incentive for Thesis students to graduate on time. Students are expected to dedicate significant time to their research throughout the program. The assistantship requires a commitment of ten (10) hours per week of instructional support as assigned by the academic department, and approximately ten (10) hours per week of independent work on the thesis.

Tuition

FEE	GRADUATE RESIDENT	GRADUATE NON-RESIDENT
Tuition	385.00	385.00

Out-Of-State Fee	****	608.00
Financial Aid Fee	19.25	19.25
Non-Resident Financial Aid Fee	****	30.40
Capital Improvement Trust Fund Fee	4.76	4.76
Transportation Fee	3.00	3.00
Activity And Service Fee	17.62	17.62
Athletic Fee	14.12	14.12
Health Fee	9.58	9.58
Technology Fee	19.25	19.25
TOTAL	472.58	1,110.98

This new degree program does not intend to operate as self-supporting program, will not seek approval for market tuition rate, and will not seek to establish differentiated graduate-level tuition.

Institutional Resources

Florida Poly has resources that will ensure that the proposed program will be of high quality.

The Master of Science in Electrical Engineering is projected to begin with 10 students and grow to 25 students in year 5. The size of this program positions the University to offer the curriculum in a streamlined manner, minimizing the number of faculty that are needed to teach the courses. The current Master of Science in Engineering degree with two tracks is already in place; hence no “new” resources are required.

Projected costs for the Master of Science in Electrical Engineering degree are primarily in salaries.

- a) Faculty salaries. Faculty salaries are included in the institutional budget, and the proposed Master’s program will be supported by the same faculty that teach in the undergraduate programs of Electrical Engineering and Computer Engineering. Florida Poly’s faculty growth plan adds additional faculty to the Electrical and Computer Engineering department, providing capacity for faculty to teach in the graduate program. These positions are already in place or “in plan.”
- b) Staff salaries. A Graduate Program Coordinator will support the proposed program as well as all other graduate programs. The Graduate Program Coordinator is expected to support the Master’s degree in Electrical Engineering

20% of their time. This position is already in place.

The anticipated faculty participation as referenced above for year one is 2 FTE (based on an Academic year effort) and by year five, 3.75 FTE. As a comparison, the current (2023-24 AY) FTE for the Electrical and Computer Engineering is 8 by faculty academic year. The following table provides the projected cost per student FTE for both undergraduate and graduate degrees.

	Faculty PY FTE (current & Yr. 1)	Faculty Cost	Cost per Faculty FTE	Student FTE (current & Yr1)	Faculty Cost per Student FTE (Yr 1)
BS ECE	4.55	\$1,196,528	\$262,973	220.4	\$5,439
MS Elec.Eng.	1.44	\$229,256	\$159,206	7.5	\$30,567

The total estimated cost (faculty salaries and other operational costs) for the M.S. Electrical Engineering for year one is \$317,149. In year five it is estimated to be \$596,929. These results are summarized in the table below.

	Year 1	Year 5
Total E&G Funding	\$317,149	\$596.929
Annual Student FTE	7.5	18.75
E&G Cost per FTE	\$42,286.53	\$31,836.21

Equipment for the Master of Science in Electrical Engineering degree program is present on campus, and graduate students have designated seating available.

No additional physical space is required for this program. The teaching labs and research labs dedicated to our Electrical and Computer Engineering program will be sufficient for both programs. Within our two academic buildings there are a total of 4,859.5 net area square feet of space as shown in the table below.

	Innovation Science and Technology (IST)	Barnett Academic Research Center (BARC)
Teaching Labs	928.50	
Research Labs	2996	935
Total NASF	3924.5	935

Library Resources

The Florida Poly Library collection is STEM focused with most resources geared towards engineering and computer science disciplines. In addition to a collection of over 150,000 eBooks, the library also provides users with access to over 100 databases containing scholarly articles and other research related resources. These databases include the Institute of Electrical and Electronics Engineers' database (IEEE), the Association for Computing Machinery database (ACM) as well as Compendex, Inspec, Web of Science and Science Direct. The Florida Poly Library also has a Demand Driven Acquisition (DDA) agreement in place with eBook providers to allow users to add

eBooks to the library collection based on their individual research needs.

Library instruction is also available to graduate students.

Accreditation Support

The Florida Poly undergraduate Electrical Engineering degree program and Computer Engineering degree programs are accredited ABET and the regional accreditation for the university is from SACSCOC. There are no outstanding accreditation recommendations that affect these undergraduate programs.

Florida Poly is applying for reaccreditation of the Electrical Engineering degree and Computer Engineering degree programs in 2024.

Implementation Term

The effective term for the proposed program is fall 2024.