



Request to Offer a New Degree Program

In accordance with Board of Governors Regulation 8.011,
Academic Degree Program Coordination and Approval

Florida Atlantic University

Institution Submitting Proposal

**College or Engineering, College of
Science**

Name of College(s) or School(s)

**Artificial Intelligence with Biology
Academic Specialty or Field**

11.0199

Proposed CIP Code (2020 CIP)

Fall 2026

Proposed Implementation Term

**Electrical Engineering and Computer
Science, Biological Sciences**

Name of Department(s)/Division(s)

**Bachelor of Science in Artificial
Intelligence with Biology
Complete Name of Degree**

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 before the program's initiation.

**Date Approved by the University
Board of Trustees**

**Board of Trustees Chair's Date
Signature**

President's Signature Date

Provost's Signature Date

I. Overview

A. Briefly describe the proposed program in the following table.

Purpose	<p>The B.S. in Artificial Intelligence with Biology equips students with balanced training in artificial intelligence (AI)/computer science (CS) (36 credits) and biology (36 credits) to meet growing workforce demand at the intersection of life sciences and technology. Graduates will be prepared for roles in bioinformatics, genomics, drug discovery, computational biology, and healthcare analytics, where AI is transforming discovery and innovation. The program is distinctive in producing graduates who are not only AI users but also AI developers with deep domain expertise, advancing Florida's competitiveness in biotechnology, healthcare, and national security.</p>
Degree Level(s):	Bachelors
Majors, Concentrations, Tracks, or Specializations	
Total Number of Credit Hours	120
Program Type	<p> <input checked="" type="checkbox"/> E&G Program <input type="checkbox"/> Market Tuition Rate Program* <input type="checkbox"/> Self-Supporting Program* </p> <p>*Refer to Board Regulation 8.002, Self Supporting and Market Tuition Rate Program and Course Offerings, for additional details.</p>
Possible Career Outcomes	<ul style="list-style-type: none"> • Bioinformatics/Genomics Data Scientist; Computational Biologist • AI/ML Engineer or Software Developer in biotech, pharma, med-tech, and diagnostics • AI enabled Drug Discovery & Translational Analytics • Environmental/Ecology Data Scientist; Public Health Surveillance Analyst • Biostatistics/Quantitative Biology Associate (AI-enabled experimental design and analysis) • Lab Automation & Data Engineering

B. Does the proposed program qualify as a Program of Strategic Emphasis, as described in the Florida Board of Governors 2025 System Strategic Plan?

[Programs of Strategic Emphasis List](#)

- ☒ Yes, it does qualify as a Program of Strategic Emphasis.
- ☐ No, it does not qualify as a Program of Strategic Emphasis.

- C. Does the program fall under one of the CIP codes listed below that qualifies for the Programs of Strategic Emphasis Waiver? *(for baccalaureate programs only)*

CIP CODE	CIP TITLE
11.0101	Computer and Information Sciences
11.0103	Information Technology
13.1001	Special Education and Teaching
13.1202	Elementary Education and Teaching
14.0801	Civil Engineering
14.0901	Computer Engineering
14.1001	Electrical and Electronics Engineering
14.1901	Mechanical Engineering
27.0101	Mathematics
52.0301	Accounting
52.0801	Finance
52.1201	Management Information Systems

☐ Yes. If yes, students in the program will be eligible for the Programs of Strategic Emphasis waiver. Refer to [Board Regulation 7.008](#) and the [Programs of Strategic Emphasis Waiver Guidance](#).

☒ No

☐ Not Applicable

II. Institutional and State-Level Accountability

A. Describe how the proposed program directly or indirectly supports the following.

1. The [State University System's Strategic Plan](#) goals.
2. The institution's strategic plan and goals the program will directly advance.
3. The university's mission.
4. The benefit to the university, the local community, and the state.

The proposed B.S. in Artificial Intelligence with Biology directly supports the goals of the State University System (SUS) Strategic Plan, which emphasizes talent pipeline expansion in STEM, innovation in emerging fields, and alignment with workforce needs. Florida's 2030 Blueprint identifies both AI and life sciences/biotechnology as critical growth areas; this program uniquely addresses both simultaneously by preparing graduates with the skills to design, develop, and apply AI in the biological sciences.

Artificial Intelligence and Data Science have been identified by the Florida Board of Governors (BOG) as critical areas for cultivating a 21st-century workforce. In fact, AI and Computer Science are designated Programs of Strategic Emphasis (PSE) under CIP 11.0101/11.0102, reflecting statewide priority for investment. By fusing AI with Biology, the proposed degree addresses multiple BOG priority areas: it contributes to the STEM pipeline, fosters research and innovation (by training students in cutting-edge AI techniques), and meets the health and life sciences workforce needs of Florida's growing biotech sector.

The program is consistent with Florida Atlantic University's (FAU's) Strategic Plan, which prioritizes research-driven education, interdisciplinary collaboration, and workforce readiness. FAU's College of Engineering & Computer Science and the Charles E. Schmidt College of Science will deliver the program jointly, expanding opportunities for students while advancing FAU's role as a leader in interdisciplinary AI education.

At the state level, the degree will:

- Supply talent to high-demand fields including bioinformatics, genomics, computational biology, biotechnology, pharmaceuticals, healthcare analytics, and environmental sciences.
- Contribute to Florida's competitiveness in biotech, health innovation, and national security sectors.
- Serve the local community and employers by strengthening regional biotech and health research hubs (Palm Beach, Broward, and Miami-Dade).

This program therefore advances the SUS's systemwide mission by fostering interdisciplinary talent, addressing documented workforce demand, and reinforcing Florida's national leadership in both AI and the life sciences.

- B. Provide the date the pre-proposal was presented to the Council of Academic Vice Presidents Academic Program Coordination (CAVP ACG). Specify any concerns raised and provide a narrative explaining how each has been addressed in this proposal or will be addressed before the proposed program is implemented.

Nov 13, 2024

III. Student and Workforce Demand

If the proposed program is a baccalaureate or master's degree on the Programs of Strategic Emphasis list, skip III-A.

- A. Describe the Florida and national workforce demand for the proposed program. The response should, at a minimum, include the current state workforce data from Florida's Department of Commerce and national workforce data from the U.S. Department of Labor's Bureau of Labor Statistics. Additional documentation for workforce needs may include letters of program support by employers and job postings for program graduates, as well as a description of any specific needs for research and service that the program would fulfill.

The employment outlook for graduates with combined AI and biology skills is exceptionally strong and projected to remain so for the next decade. On the national level, Data Scientists (SOC 15-2051) are among the fastest-growing occupations in the country, with the U.S. Bureau of Labor Statistics projecting 34% growth from 2024 to 2034, far outpacing the average. This growth reflects about 23,400 openings per year in data science roles nationally. Notably, the median annual wage for data scientists is \$112,590 (as of 2024), indicating these are high-paying jobs. While “data scientist” is a broad category, a substantial subset of these roles are in biomedical and scientific industries—exactly the sectors our graduates will target.

In parallel, specialized roles merging biology and computing are seeing rapid growth. The O*NET occupation “Bioinformatics Scientists” (SOC 19-1029.01) is designated as a Bright Outlook career, meaning it is expected to grow faster than average and/or have significant job openings. According to the latest data, “Biological Scientists, All Other” (a category encompassing bioinformaticians and computational biologists) employ ~66,800 workers in the U.S. (2023) with projected growth of 6–8% by 2033. While that percentage growth is moderate, it is important to note that this is an emerging field—many bioinformatics functions are also being classified under data science or biostatistics in labor surveys.

Florida’s job market specifically is poised to absorb these graduates. Florida is home to over 7,400 jobs in life sciences Research and Development (R&D) and related tech just in Palm Beach County, and thousands more statewide in biotech hubs around Tampa, Orlando, and Miami. The Business Development Board of Palm Beach County notes that life sciences is not only the fastest-growing cluster but also one generating new companies and expansions (35 expansions/relocations since 2012 in Palm Beach County

alone). Each of those companies (ranging from pharmaceuticals to health-tech startups) needs employees who can handle large and dynamic biological datasets, build predictive models, and develop software tools—in other words, exactly the skill set of an AI+Biology graduate.

Complete the table below using data from the Search by CIP or SOC Employment Projections Data Tool in the Academic Review Tracking System.

Labor Market Demand, CIP Code 11.0199

Occupations	Percent Change in Job Openings		Annual Average Job Openings		Total # of New Jobs		Education Level Needed for Entry
	FL 2022-32	U.S. 2024-34	FL 2022-32	U.S. 2024-34	FL 2022-32	U.S. 2024-34	
Data Scientists (15-2051)	+47%	+33.5%	1,020	23,400	3,980	82,500	Bachelor's
Software Developers (15-1252)	+35%	+15.8%	7,330	115,200	26,320	267,700	Bachelor's
Biological Scientists, All Other (19-1029)	4%	1.2%	260	4,800	140	800	Bachelor's

Sources:

Date Retrieved: 08/13/2025

U.S. Bureau of Labor Statistics. *Employment Projections, Table 1.2 (2024–2034).*

<https://data.bls.gov/projections/occupationProj>

Florida Department of Commerce. *Employment Projections (Statewide 2022–2032).*

<http://www.floridajobs.org/labor-market-information/data-center/statistical-programs/employment-projections>

(data displayed via O*NET Local Trends / Projections Central)

- B. If the occupations do not currently appear in the most recent version of the Search by CIP or SOC Employment Projections Data Tool provided by Board staff, provide occupational linkages or jobs graduates will be qualified to perform based on the training provided to students in the proposed program in the table below. Contact the institutional representative working with you on the degree proposal for more information about possible occupations.

Occupational Linkages for the Proposed Program

SOC Code (XX-XXXX)	Occupation Title	Source / Reason for Inclusion

- C. Describe the student demand for the proposed program. The response should, at a minimum, include the following.
1. Projected headcount for Year 1 through Year 5.
 2. Data that supports student interest or demand for the proposed program. Include questions asked, results, and other communications with prospective students.

Projected Headcount

- Year 1: ~25 students (primarily first-time-in-college freshmen, with some transfers).
- Year 2: ~45 students.
- Year 3: ~75 students.
- Year 4: ~100 students (with the first graduating cohort of ~20).
- Year 5: ~120 students (with 30–40 graduates annually thereafter).

These figures reflect steady but manageable growth, consistent with similar interdisciplinary STEM programs at FAU and other SUS institutions.

Evidence of Interest

Student demand has been confirmed through three primary sources:

Advising Feedback: Current FAU biology and computer science undergraduates frequently ask how to combine computing with life sciences, reflecting strong interest in AI + biology pathways.

Industry Advisory Board Input: Employers consistently emphasize the value of undergraduates trained in both AI and biological sciences, reinforcing that such a program would attract students seeking high-demand careers.

National Trends: Enrollment growth in computer science, data science, and bioinformatics nationally shows increasing student preference for interdisciplinary STEM programs that integrate AI and health/biological applications.

Together, these indicators provide a clear basis for sustained student interest and projected enrollment growth.

IV. Duplication of Existing Programs

- A. If the program duplicates another degree program at a private or public state university in Florida with a substantially similar curriculum, provide evidence that the university has investigated the potential impact on the existing program, has discussed opportunities for collaboration with the affected university, and can justify the need for duplication. Additionally, summarize the outcome(s) of communication with appropriate personnel (e.g., department chairs, program coordinators, deans) at the affected institutions regarding the potential impact on enrollment and any opportunities for collaboration in the areas of instruction and research.

No existing Bachelor's programs in SUS with CIP 11.0199.

FAU's pre-proposal for a B.S. in Artificial Intelligence with a second discipline was presented to the CAVP and positively received. Sister SUS institutions expressed interest in developing similar programs, underscoring the timeliness of FAU's initiative. No substantive concerns were raised regarding duplication, and FAU's distinct dual-core curriculum (36 AI/CS + 36 Biology) ensures differentiation and complements existing programs in the SUS.

- B. If the proposed program curriculum substantially duplicates an existing program at Florida Agricultural and Mechanical University, provide evidence that the proposed program would not affect enrollment in Florida Agricultural and Mechanical University's program.

V. Curriculum

A. If the program is a bachelor's degree, please identify if the university is seeking any of the following statuses for the program.

☐ Not Applicable

Status	Yes	No	If yes, complete the following
Common Prerequisites		X	Appendix C
Exception to 120 Credits		X	Appendix D
Specialized Admissions		X	Appendix E

B. Describe the admissions criteria and graduation requirements for the program.

Admission Requirements:

Admission into the program will follow FAU's general freshman admission standards; there are no additional selective admissions requirements (no limited-access status is sought). However, success in this rigorous curriculum will require strong preparation in math and science. Thus, the program will recommend that incoming students have completed high school calculus and biology, or be ready to take calculus in the first semester. An initial math placement (ALEKS) will ensure they start at the correct math level (MAC 2311 or prior precalculus if needed). We anticipate many students will enter as freshmen declaring this major. For transfer students (e.g., from state colleges with A.A. degrees), we will require completion of the common prerequisite courses (Calculus, Statistics, two semesters of Biology with lab, two of Chemistry, and an introductory programming class)—essentially mirroring the prerequisites for Biology and for Computer Science programs.

Graduation Requirements:

To graduate, students must complete the 120 credits as outlined (including all core requirements and approved electives), maintain a minimum grade point average (GPA) of 2.0 in the major, and fulfill the standard FAU baccalaureate requirements (foreign language admission requirement, civic literacy, etc.). Students must attain a minimum grade of "C" in Mathematics of Data Science, AI Core, AI Electives, Biology Core, Biology Electives, and AI Capstone.

C. If the proposed program is an AS-to-BS capstone, provide evidence that it adheres to the guidelines for such programs, as outlined in [State Board of Education Rule 6A-10.024](#). List any prerequisites and identify the specific AS degrees that may

transfer into the proposed program.

☒ Not applicable to this program because it is not an AS-to-BS Capstone.

D. Describe the curricular framework for the proposed program in the table below.

Curricular Framework: The Bachelor's in AI with Biology curriculum is carefully structured to ensure students develop both breadth and depth in the two disciplines. It consists of a foundational lower-division core, an upper-division core in AI and Biology, and a set of integrative courses and experiences at the interface. The curriculum meets all requirements for a B.S. degree, including general education and common prerequisites, while focusing electives in the AI+Biology domain.

Lower-Division (Years 1–2): Students build fundamental knowledge in mathematics, computing, and biology. Key courses include:

- *General Biology I & II with Labs* (BSC 1010/L, BSC 1011/L) – Introduces cellular, molecular, and organismal biology (common prerequisites for biology majors statewide).
- *Calculus* (MAC 2233) and *Statistics* (STA 2023 or STA 2820) – Math foundation for both AI algorithms and quantitative biology.
- *Programming and Data Structures*: Students will take an introductory programming course (COP 3035C, CEN 33062C) followed by Data Structures (COP 3410C). These are standard CS core classes ensuring algorithmic thinking and coding proficiency.
- *General Education courses*: Students will complete FAU's GenEd (in areas like humanities and social sciences)—some of these can be chosen to complement the major (for instance, a Philosophy ethics course focusing on AI ethics could be recommended).

Upper-Division Core (Years 3–4): In junior and senior years, students take advanced courses in both tracks and specialized interdisciplinary courses.

The AI Core includes:

- *Introduction to Artificial Intelligence (CAP 4630)* – A broad introduction to AI concepts: intelligent agents, search algorithms, knowledge representation, machine learning basics, etc. (Prereq: data structures). This course lays the groundwork in AI theory and Python programming for AI.
- *Introduction to Data Science and Analytics (CAP 4773)* – Covers statistical analysis, data management, visualization, machine learning methods, and big-data tools. This course ensures students can handle real-world datasets in practice (and is research-intensive, giving hands-on experience with data).
- *Introduction to Data Mining and Machine Learning (CAP 4770 or CAP 4612)* – A dedicated machine learning (ML) course, teaching algorithms such as regression, classification, clustering, neural networks and deep learning fundamentals. Students learn both theory and implementation of ML, building skills to create predictive models.
- Optionally, an advanced AI elective such as *Deep Learning (CAP 4613)* or *Trustworthy AI (CAP 4623)* could be taken if the student wishes to delve deeper. We anticipate developing a senior-level elective like “AI in Healthcare” in the future

as well.

The Biology Core includes:

This sequence equips students with the life science depth and integrative skills needed to apply AI effectively in biological domains.

- *Genetics (PCB 3063)*: Principles of inheritance and molecular genetics; foundation for bioinformatics and genomics applications.
- *Cell Biology (PCB 3023)*: Structure and function of cells, organelles, and signaling pathways, preparing students to analyze cellular datasets.
- *Evolution (PCB 3674)*: Evolutionary theory and mechanisms; context for interpreting genomic and population-level data.
- *Biological Networks (BSC 4930)*: Exploration of gene, protein, metabolic, and ecological networks, with emphasis on computational modeling and systems biology.
- *Artificial Intelligence Applications in Biology (IDS 4139)*: Interdisciplinary course introducing AI/ML techniques applied to genomics, medical imaging, and ecological modeling; emphasizes case studies and applied projects.
- *Biology Electives (BSC/PCB XXXX)*: 3000–4000-level biology electives selected to provide domain depth in areas such as Molecular Genetics, Immunology, Neuroscience, Systems Biology, Ecology, or Marine Biology.

The curriculum will satisfy all Academic Learning Compact (ALC) requirements—an ALC will be developed specifying critical thinking, communication, and content knowledge outcomes.

Course Prefix & Number	Course Title	Required or Elective	Credit Hours	Course Description
CAI 4304	Introduction to Natural Language Processing	Elective	3	This course provides an introduction to the field of Natural Language Processing. It includes relevant background material in Linguistics, Mathematics, Probabilities, and Computer Science. Some of the topics covered in the class are Text Similarity, Part of Speech Tagging, Parsing, Semantics, Question

				Answering, Sentiment Analysis, and Text Summarization
CAP 2603	Applications of Artificial Intelligence	Required	3	This course provides an overview of the field of artificial intelligence (AI) with emphasis on contemporary techniques and applications of AI in many areas, including computer vision, natural language processing and medical diagnosis. The course broadens the participants' view of the field of AI, allowing a better understanding of its foundations, risks, applications and implications.
CAP 4623	Trustworthy Artificial Intelligence	Elective	3	Topics include preliminary materials security, trust and AI; human agency and oversight; technical robustness and safety; privacy and data governance; transparency; diversity, non-discrimination and fairness; societal and environmental well-being; and accountability.
CAP 4630	Introduction to AI	Required	3	A broad introduction to the core concepts of

				artificial intelligence, including intelligent agents, problem solving by search, knowledge representation and reasoning and learning from examples. Programming in Python and possibly other software environments.
CAP 4773	Introduction to Data Science and Analytics	Required	3	This course deals with the principles of data science and analytics. Topics covered include statistical analysis of data, measurement techniques and tools, machine learning methods, knowledge discovery and representation, classification and prediction models.
CEN 3062C	Introduction to Software Design	Required	3	This course introduces fundamental programming concepts in object-oriented design and abstraction. Design, implementation, testing and debugging object-oriented programs are emphasized, as well as how to analyze, instantiate and connect

				components that are reusable parts.
COP 3035C	Introduction to Programming in Python	Required	3	Introduction to programming with Python for students with no prior programming experience. Course introduces programming fundamentals, algorithm development, debugging, testing and visualization with applications.
COP 3410C	Data Structures and Algorithm Analysis with Python	Required	3	This course is an advanced programming class that covers data structures and algorithm analysis using the Python programming language. The course covers various data structures (including arrays, linked lists, stacks, queues, trees) and abstract data types in the design and implementation of computer programs.
COP 3540	Introduction to Database Structures	Elective	3	An introduction to the design, implementation and application of database systems, with a focus on relational databases. Key core topics include relational algebra, data models, normalization, file

				storage, indexing, memory and transaction management and the SQL programming language. Advanced topics related to contemporary database design and applications are also covered.
COP 3834	Introduction to Web Programming	Elective	3	This course introduces frontend and backend development skills, and experience with layout, functionality and interactivity of websites. Students gain knowledge to build fast, responsive and personalized user experience websites.
COT 2000C	Foundations of Computing	Required	3	Basic course that introduces foundational concepts in computing, including common tools for software development.
CAP 4613	Introduction to Deep Learning	Elective	3	
COT 4400	Analysis of Algorithms	Required	3	Mathematical analysis of algorithm complexity; algorithm design techniques (such as divide and conquer, greedy and dynamic

				programming) in the context of problem domains such as sorting and optimization problems; graph algorithms; data structures (heaps, priority queues, hash tables and binary search trees); introduction to NP-completeness.
CHM2045/2045L	General Chemistry 1	Required	3	This course is designed for students pursuing careers in the sciences or who need a more rigorous presentation of chemical concepts than is offered in an introductory course. Students will engage in problem solving and critical thinking while applying chemical concepts. Topics will include the principles of chemistry including atomic theory, electronic and molecular structure, measurement, stoichiometry, bonding, periodicity, thermochemistry, nomenclature, solutions, and the properties of gases.
CHM2046/L	General Chemistry 2	Required	3	This laboratory

				course is designed to deepen understanding of key chemical principles covered in General Chemistry 2 and to enhance practical laboratory skills. Experiments include acid-base titrations, reaction kinetics, equilibrium constant determination, and calorimetry.
PCB 3063	Genetics	Required	3	An in-depth analysis of the mechanisms that operate in transmission genetics and an introduction to eukaryotic molecular genetics including regulation of gene expression, genomics, epigenetics and bioinformatics.
PCB 3023	Cell Biology	Required	3	Genetics at the molecular level as related to gene structure, function, variation and control with a comprehensive treatment of plant and animal cell structure and function. Basic concepts of cell physiology are treated.
PCB 3674	Evolution	Required	3	An in-depth examination of the

				mechanisms that operate in the evolutionary process.
BSC 4930	Biological Networks	Required	3	Special topics of interest to biological sciences students.
IDS 4139	Artificial Intelligence Applications in Biology	Required	3	This course explores the use of Artificial Intelligence (AI) and Machine Learning (ML) to solve biological challenges, including genomic analysis and neuroscience modeling. Students gain hands-on experience with AI tools and programming to analyze biological data. This course emphasizes critical thinking about the potential and limitations of AI in biology, culminating in a final project applying these techniques to real-world problems.
BSC 4932	CMBB Research Seminar (OR) Marine Science Seminar		1	A variable title seminar series in which students experience information exchange among professional scientists. This course offers a more informal, less intimidating

				environment to talk with faculty, graduate students and other researchers. Invited speakers are from various institutions allowing students to network regarding further schooling/jobs.
CAI 4741	AI Capstone Projects	Required	3	In this course, students will work in teams to design, implement, and present an applied solution to a real-world problem using artificial intelligence (AI). Working in teams and mentored by faculty or industry partners, students integrate skills in programming, data analysis, and domain knowledge to develop a functional AI system or research prototype. Deliverables include a written report, a reproducible code repository, and presentations.
BSC/PCB XXXX	Any 3000 or 4000-level Biology elective	Elective	3	Any BSC/PCB elective
BSC/PCB XXXX	Any 3000 or 4000-level Biology elective	Elective	3	Any BSC/PCB elective
BSC/PCB XXXX	Any 3000 or 4000-level Biology elective	Elective	3	Any BSC/PCB elective Any BSC/PCB elective

BSC/PCB XXXX	Any 3000 or 4000-level Biology elective	Elective	4	
CAI 4741	AI Capstone Projects	Required	3	<p>In this course, students will work in teams to design, implement, and present an applied solution to a real-world problem using artificial intelligence (AI). Working in teams and mentored by faculty or industry partners, students integrate skills in programming, data analysis, and domain knowledge to develop a functional AI system or research prototype.</p> <p>Deliverables include a written report, a reproducible code repository, and presentations.</p> <p>In this course, students will work in teams to design, implement, and present an applied solution to a real-world problem using artificial intelligence (AI). Working in teams and mentored by faculty or industry partners, students integrate skills in programming, data analysis, and domain knowledge to develop a functional AI</p>

				<p>system or research prototype. Deliverables include a written report, a reproducible code repository, and presentations.</p>
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E. Does an industry or employer advisory council exist to provide input regarding curriculum development, student assessment, and academic workforce alignment?

- ☒ Yes
☐ No.

F. Explain how employer-driven or industry-driven competencies were identified and incorporated into the curriculum. Has a strategy been established for assessing student learning and reviewing academic workforce alignment to modify the curriculum as needed?

To identify the competencies most valued by employers, the program development team primarily relied on two sources:

1. Input from industry advisory board members representing biotechnology, healthcare analytics, research institutes, and environmental science sectors.
2. Analysis of regional and national job postings and occupational data (Florida Department of Commerce, United States Bureau of Labor Statistics, Lightcast/Burning Glass) for role families such as data scientist, bioinformatics scientist, computational biologist, and biostatistician.

This process consistently highlighted the need for:

- Proficiency in Python/R, data wrangling, AI foundations, and applied machine learning.
- Familiarity with biological data modalities (genomic, clinical, and ecological).
- Competence with bioinformatics tools and databases.
- Foundations in mathematics and statistics.
- Communication skills to present results to both technical and scientific audiences.

These competencies are explicitly built into the curriculum: the AI core spine develops programming, machine learning, and data science skills; the biology core provides domain foundations; and integrative courses such as *AI Applications in Biology* and the capstone project require students to apply AI methods to real biological data, document results in reproducible formats, and present to mixed technical/non-technical audiences.

Assessment and Continuous Alignment Strategy

The program has established a continuous review process to ensure learning outcomes

remain aligned with workforce needs:

- Course-embedded assessments (labs, projects, and exams) measure mastery of AI and biology skills.
- Capstone evaluations include external reviewers from the advisory board to validate industry relevance.
- Internship supervisor feedback and student portfolios provide evidence of applied competency.
- Annual curriculum review meetings with the advisory board and faculty incorporate the latest labor-market signals from job posting analytics and occupational data.
- Every three years, a comprehensive program review will consider broader labor-market trends and update course content, electives, and required competencies as needed.

This approach ensures that employer-driven skills are not only present in the curriculum but are also assessed through authentic artifacts and continuously refreshed in response to evolving industry demand.

G. Does the proposed curriculum align with Section 1001.706 (5)(a), Florida Statutes?

☒ Yes

☐ No

H. For degree programs in medicine, nursing, and/or allied health sciences, identify the courses with the competencies necessary to meet the requirements in [Section 1004.08, Florida Statutes](#).

For teacher preparation programs, identify the courses with the competencies required in [Section 1004.04, Florida Statutes](#).

☒ Not applicable to this program because the program is not a medicine, nursing, allied health sciences, or teacher preparation program.

I. Select the anticipated mode of delivery for the proposed program.

☒ Face-to-Face

☒ Hybrid

☐ Distance Learning

If the method(s) of delivery will require specialized services or additional financial support, describe the projected costs below.

- J. Describe any potential impact on related academic programs or departments, such as an increased need for general education or common prerequisite courses or an increased need for required or elective courses outside of the proposed academic program. If the proposed program is a collaborative effort with another academic department(s), college(s), or school(s) within the institution, provide a letter(s) of support or MOU(s) from each department, college, or school in Appendix B.

The proposed B.S. in Artificial Intelligence with Biology is intentionally designed to build on existing general education, prerequisite, and upper-division courses already offered at FAU. We anticipate only modest impacts on related programs and departments, all of which can be accommodated within current instructional capacity or through planned scaling.

- K. Describe any currently available sites for internship and/or practicum experiences and any plans to seek additional sites in the next five years.

☐ Not applicable to this program because students are not expected to seek internship or practicum opportunities as a required curriculum component.

Students will have immediate access to internship and practicum opportunities through local, regional, and national level companies. Local industry partners, such as Modernizing Medicine in the FAU Research Park, will have opportunities to closely interact with our students.

Palm Beach County offers a particularly strong environment for placements, as it has become a hub for biotechnology and life sciences with over 700 companies and thousands of employees in the cluster. This concentration provides a robust pipeline of opportunities for internships and applied projects in areas ranging from biomedical research to healthcare analytics and biotech startups.

- L. Identify any established or planned educational sites where the program will be offered or administered. Provide a rationale if the proposed program will only be offered or administered at a site(s) other than the main campus.

This program will be offered at the main campus in Boca Raton.

M. If the institution has conducted recent program reviews, received feedback from accreditation bodies, or received input from other entities that affect the proposed program, describe the institution's progress in implementing the recommendations.

If the proposed program is a doctoral-level program, include the external consultant's report and the institution's responses to the report as Appendix A.

N/A

VI. Faculty

A. Identify existing and anticipated full-time faculty who will participate in the proposed program through Year 5, excluding visiting or adjunct faculty in the table below. Additionally, provide the curriculum vitae for each identified faculty member.

Faculty Code*	Faculty Name or "New Hire" Highest Degree Held Academic Discipline	Rank	Contract Status	Initial Date for Participation in Program
A	Hari Kalva	Professor	Tenure	Spring 2030
A	Michael DeGiorgio	Professor	Tenure	Spring 2027
A	Mehrdad Nojournian	Associate Professor	Tenure	Spring 2030
A	Ana Aleksandric	Assistant Professor of Teaching	Non-Tenure	Fall 2028
A	Sareh Taebi	Associate Professor of Teaching	Non-Tenure	Fall 2027
A	Juan Yepes	Assistant Professor of Teaching	Non-Tenure	Fall 2026

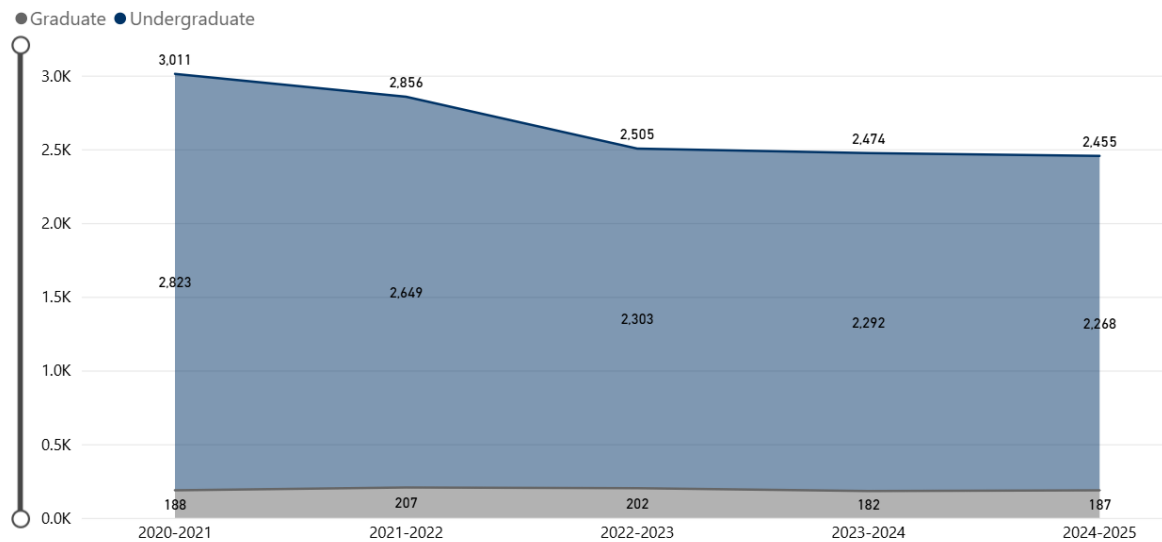
A	Ionut Cardei	Professor	Tenure	Fall 2028
A	Mihaela Cardei	Professor	Tenure	Spring 2029
A	Dingding Wang	Senior Instructor	Non-Tenure	Spring 2026
A	Xingquan Zhu	Professor	Tenure	Fall 2029
A	Behnaz Ghoraani	Associate Professor	Tenure	Spring 2030
A	Velibor Adzic	Assistant Professor of Teaching	Non-Tenure	Fall 2026
A	Zhen Ni	Associate Professor	Tenure	Spring 2028
A	KwangSoo Yang	Associate Professor	Tenure	Spring 2029
A	Safak Kayikci	Assistant Professor of Teaching	Non-Tenure	Spring 2027
A	Ahmad Imteaj	Assistant Professor	Tenure Track	Fall 2029

*Faculty Code	Code Description	Source of Funding
A	Existing faculty on a regular line	Current Education & General Revenue
B	New faculty to be hired on a vacant line	Current Education & General Revenue
C	New faculty to be hired on a new line	New Education & General Revenue
D	Existing faculty hired on contracts/grants	Contracts/Grants
E	New faculty to be hired on contracts/grants	Contracts/Grants
F	Existing faculty on endowed lines	Philanthropy & Endowments

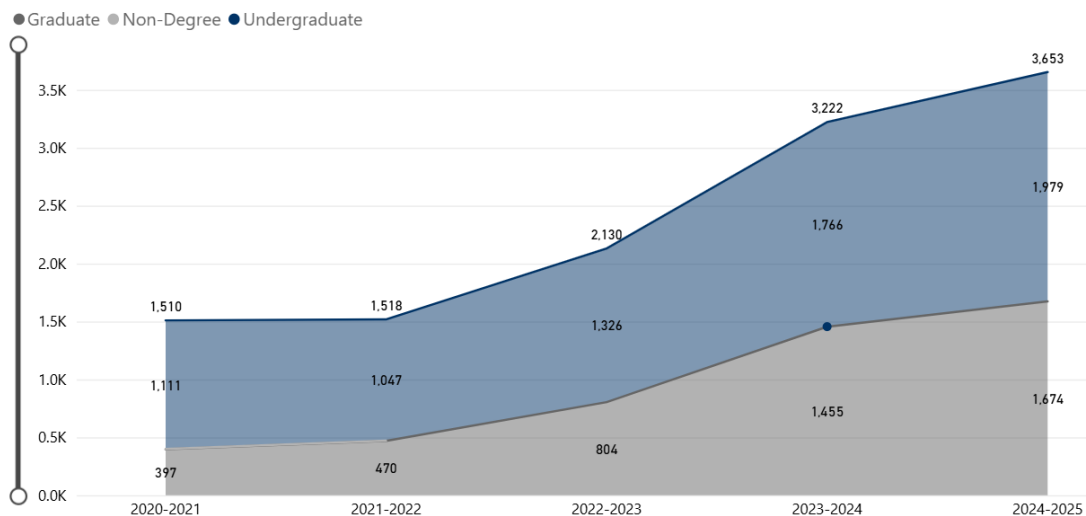
G	New faculty on endowed lines	Philanthropy & Endowments
H	Existing or new faculty teaching overload in addition to assigned course load	Enterprise Auxiliary Funds

- B. Provide specific evidence demonstrating that the academic unit(s) associated with the proposed program has been productive in teaching, research, and service. Such evidence may include trends over time for average course load, student headcount in major or service courses, degrees granted, external funding attracted, and other indicators of excellence (e.g., thesis, dissertation, or research supervision).

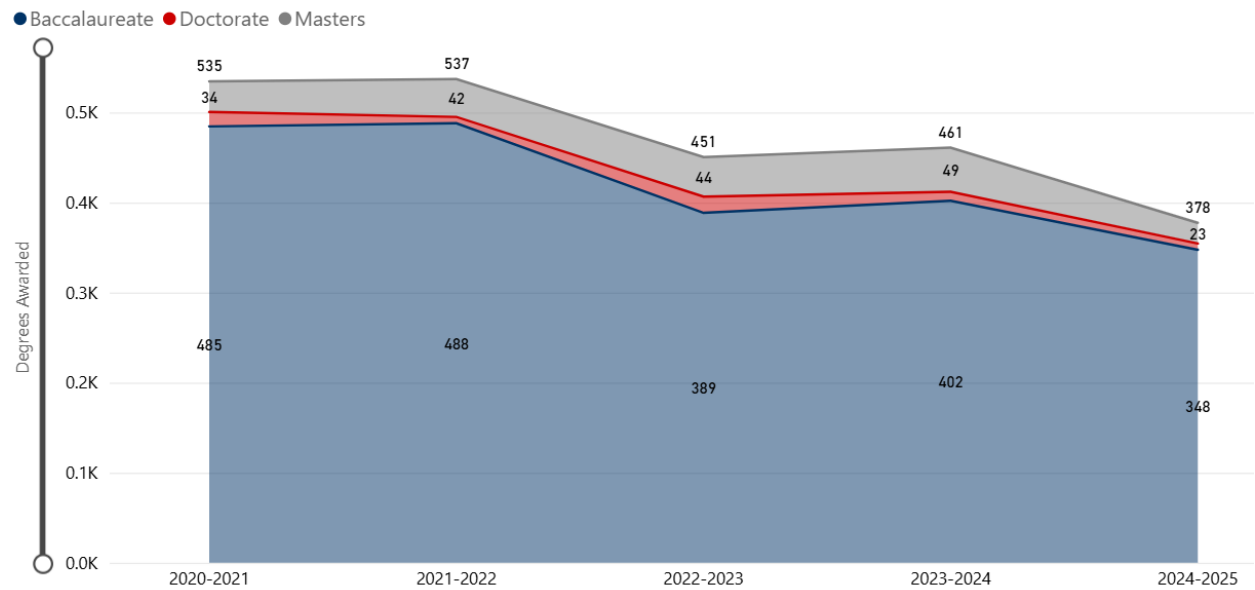
Both the Biological Sciences and the Electrical Engineering and Computer Science Departments have been highly productive in teaching, research, and service as shown by the enrollment and degrees awarded data below.



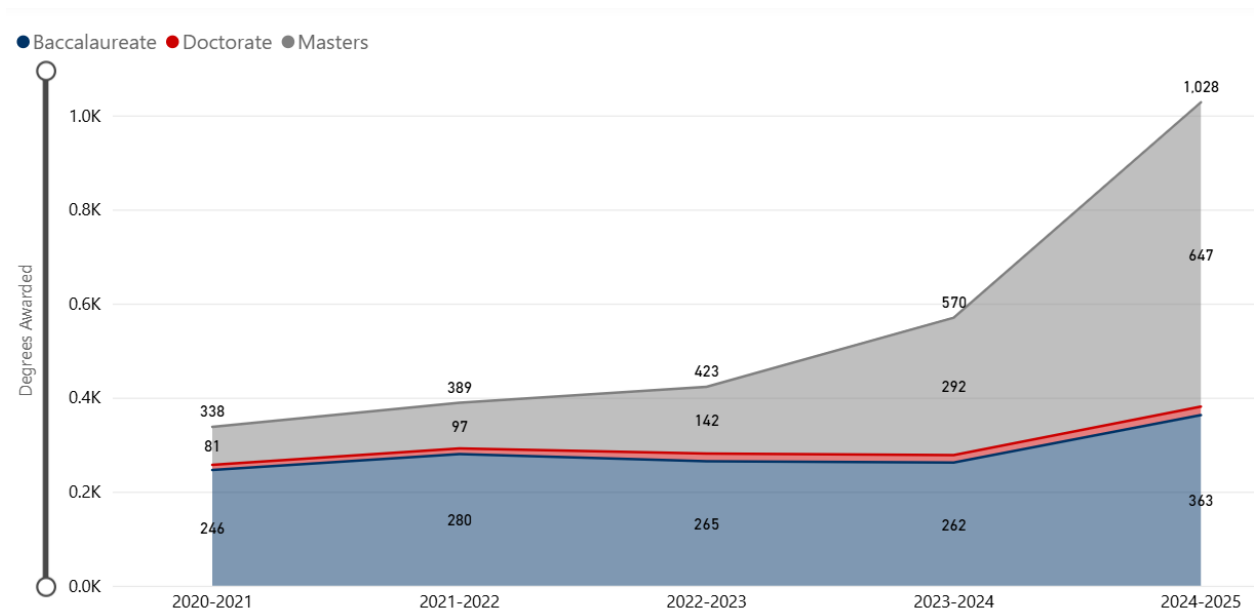
Annual Enrollment in Biological Sciences Department



Annual Enrollment in Electrical Engineering and Computer Science Department



Degrees Awarded in Biological Sciences Department



Annual Degrees Awarded in Electrical Engineering and Computer Science Department

VII. Estimate of Investment

- A. Provide the tuition rate for the proposed program for resident and non-resident students.

Resident/Credit Hour	Non-Resident/Credit Hour
\$203.29	\$721.84

If the proposed program will operate as self-supporting, market tuition rate, or establish differentiated graduate-level tuition, per [Board of Governors Regulation 8.002](#), complete Appendix F, Self-Supporting & Market Rate Tuition.

- B. Complete the summary table below.

- Provide funding sources for Years 1 and 5 of program operation.
- Provide headcount (HC) estimates of student enrollment for Years 1 through 5.

Implementation Timeframe	HC	E&G Funds	Contract & Grants Funds	Auxiliary/ Philanthropy Funds	Total Cost
Year 1	25				
Year 2	45				
Year 3	75				
Year 4	100				
Year 5	120				

- C. Is the infrastructure in place to meet the new degree program requirements, such as hiring faculty and staff, curriculum development, facilities, and funding, before enrollment of students to the program?

☒ Yes

☐ No. If not, is there a plan to establish the infrastructure to support the program?
Please describe.

VIII. Institutional Resources

A. Describe any additional library resources needed to implement and/or sustain the program through Year 5.

☒ Not applicable to this program because no additional library resources are needed to implement or sustain the proposed program.

B. Describe any specialized equipment and space currently available to implement and/or sustain the proposed program through Year 5.

N/A

C. Describe any additional specialized equipment or space needed to implement and/or sustain the program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space. Costs for new construction should be provided in response to Section VIII.D. below.

☒ Not applicable to this program because no new I&R costs are needed to implement or sustain the program through Year 5.

D. 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. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase due to the program, describe and estimate those expenses below. High enrollment programs, in particular, are expected to necessitate increased costs in non-I&R activities.

☒ Not applicable to this program because no new capital expenditures are needed to implement or sustain the program through Year 5.

E. Describe any additional special categories of resources needed to operate the proposed program through Year 5, such as access to proprietary research facilities, specialized services, or extended travel.

☒ Not applicable to this program because no additional special categories of resources are needed to implement or sustain the program through Year 5.

F. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5.

☒ Not applicable to this program because no fellowships, scholarships, and/or graduate assistantships will be allocated to the proposed program through Year 5.

IX. Required Appendices

Table 1 outlines the required appendices by degree level. Institutions may provide additional appendices to supplement the information provided in the proposal and list them in Table 2 below.

Table 1. Appendices

	Appendix Title	Degree Level	Required for Specific Programs	Included Yes/No
A	Consultant's Report and Institutional Response	Doctoral or Professional		N/A
B	Letters of Support or MOUs from Other Academic Units	Any new program	Only for programs offered in collaboration with other academic unit(s) within the institution	YES
C	Common Prerequisite Request Form	Bachelor's		N/A
D	Request for Exception to the 120 Credit Hour Requirement	Bachelor's	Requesting approval to exceed the 120 credit hour requirement	N/A
E	Request for Specialized Admissions Status	Bachelor's	Requesting approval for specialized admissions status	N/A
F	Self-Supporting & Market Rate Tuition Programs	Graduate programs	Only for self-supporting or market tuition rate programs	N/A
G	Faculty Curriculum Vitae	Any new program		YES

Table 2. Additional Appendices

Appendix	Appendix Title	Description