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STATE UNIVERSITY SYSTEM OF FLORIDA

State University System of Florida Board of Governors
PROGRAM CIP CHANGE REQUEST FORM
In Accordance with Board of Governors Regulation 8.011

INSTITUTION: Florida A&M University
If applicable, please include the campus.

PROGRAM NAME: Pharmaceutical Sciences

DEGREE LEVEL(S): B M D

CURRENT CIP CODE: 51.2099

REQUESTED CIP CODE: 51.2010

EFFECTIVE TERM OF REPORTING STUDENTS UNDER NEW CIP: Spring 2027
This is the first term for students in the program using the new CIP code. The effective term must not be the present term.

Use this form to notify the State University System of Florida Board of Governors that the institution intends to change the CIP code for an already existing degree program and begin reporting enrollment and degree data under the new CIP code. This will allow for more accurate data analysis of enrollment and degree productivity and initiate any necessary changes to the articulation manuals and online search tools.

1. Does the program currently fall under one of the CIP codes listed below? S***kip this question if this request does not pertain to a baccalaureate program.***

☐ Yes
☒ No

If yes, in accordance with the guidance associated with the Programs of Strategic Emphasis Waiver, the provost or their designee should contact Board staff to discuss prior to requesting any changes to the programs listed below.

CIP CODE	CIP TITLE	CATEGORY
11.0101	Computer and Information Sciences	STEM
11.0103	Information Technology	STEM
14.0801	Civil Engineering	STEM
14.0901	Computer Engineering	STEM
14.1001	Electrical and Electronics Engineering	STEM
27.0101	Mathematics	STEM
40.0801	Physics	STEM
52.0301	Accounting	GAP ANALYSIS
52.0801	Finance	GAP ANALYSIS
52.1201	Management Information Systems	STEM

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2. Provide a short background and rationale for the CIP change request.

Florida A&M University (FAMU) requests approval to reclassify its Bachelor of Science, Master of Science, and Ph.D. programs in Pharmaceutical Sciences from CIP Code 51.2099 (*Pharmacy, Pharmaceutical Sciences, and Administration, Other*) to CIP Code 51.2010 (*Pharmaceutical Sciences*).

- While CIP Code 51.2099 serves as a broad classification for programs not otherwise specified, **CIP Code 51.2010** provides a dedicated, precise taxonomy that accurately reflects FAMU's specialized curriculum. FAMU currently operates all three degree levels under the 51.2099 designation.
- The degree pathways at FAMU focus on rigorous applied sciences—including pharmacology, toxicology, pharmaceutics, dosage formulation, and regulatory science—with specialized graduate tracks in medicinal chemistry and economic pharmacy. CIP 51.2010 precisely matches this scientific depth and programmatic structure.
- Reclassification directly supports the State University System (SUS) 2030 Strategic Plan and aligns FAMU's program metrics with Florida's Programs of Strategic Emphasis in STEM and health-related fields.
- CIP 51.2010 accurately reflects graduate preparation for high-wage, high-demand technical roles across Florida's life sciences, biotechnology, drug manufacturing, and regulatory sectors.

Reclassifying to CIP 51.2010 ensures national reporting accuracy, strengthens program visibility, and aligns FAMU's degree inventory with state workforce priorities without requiring additional resources or curriculum changes.

3. Describe any changes that have occurred to the curriculum. Include a copy of the curriculum with the application submission.

In 2022, the Pharmaceutical Sciences faculty updated the curriculum within existing departmental resources to strengthen foundational instruction in advanced chemical principles—a core pillar of pharmaceutical sciences and a critical driver of regional workforce readiness.

- The department introduced a rigorous, three-course sequence—*Advanced Bioorganic Chemistry I, II, and III*.
- These enhancements deepen students' proficiency and strengthen the program's scientific focus on structure–activity relationships, molecular mechanisms of drug action, and translational applications that are fundamental to the discipline.
- These additions advance high-quality STEM education under the State University System (SUS) 2030 Strategic Plan and prepare graduates for high-demand sectors of the life sciences workforce.

These curriculum updates ensure that FAMU's program fully reflects the contemporary academic depth, scientific rigor, and specialized training expected under the discipline-specific classification of CIP Code 51.2010 (*Pharmaceutical Sciences*).

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4. Complete the curriculum crosswalk below, describing how the new CIP code description aligns with the required courses offered in the academic degree program.

CIP Code Description: 51.2010 - A program that focuses on the basic sciences that underlie drugs and drug therapy and that prepares individuals for further study and/or careers in pharmaceutical science and research, pharmaceutical administration and sales, biotechnology, drug manufacturing, regulatory affairs, and related fields. Includes instruction in mathematics, biology, chemistry, physics, statistics, pharmaceutics, pharmacology, and toxicology, dosage formulation, manufacturing, quality assurance, and regulations.

COURSES THAT ALIGN WITH THE NEW CIP	ALIGNMENT RATIONALE
Pharmaceutical Calculations (B)	Provides foundational quantitative skills essential to pharmaceutical sciences. Topics include measurement systems, unit conversions, concentration calculations, dilutions, dosage determination, compounding calculations, biostatistical applications, and quantitative problem-solving used in pharmaceutical formulation, quality control, and drug development settings.
Scientific Communications (B)	Develops written, oral, and visual communication skills required in pharmaceutical and biomedical sciences. Students learn scientific writing, literature evaluation, technical reporting, data presentation, regulatory documentation, and professional communication practices used in research, biotechnology, pharmaceutical manufacturing, and healthcare environments.
Physiological Chemistry (B)	Examines the chemical and molecular processes that govern normal physiological functions. Emphasis is placed on biomolecules, metabolism, enzyme activity, signal transduction, and the biochemical basis of health and disease, with applications to drug action, therapeutic development, and pharmaceutical research.
Pharmaceutical Analysis & Lab (B)	Focuses on qualitative and quantitative analytical techniques used to characterize drug substances and formulations. Covers spectroscopy, chromatography (HPLC, GC), mass spectrometry, wet chemical methods, validation procedures, and quality control standards required in pharmaceutical development and manufacturing.
Pharmaceutical Microbiology (B)	Explores microorganisms and their significance in pharmaceutical development, manufacturing, and quality control. Topics include microbial physiology, sterilization, aseptic processing, contamination control, antimicrobial agents, biotechnology applications, and regulatory requirements for microbiological quality assurance.
Anatomy & Physiology/Pathophysiology I & Lab (B)	Examines the structure and function of the human body, with emphasis on cellular organization, tissues, and integumentary, skeletal, muscular, and nervous systems. Introduces pathophysiological changes associated with disease states and includes laboratory activities that reinforce anatomical and physiological concepts.
Anatomy & Physiology/Pathophysiology II & Lab (B)	Continues the study of the human body systems, focusing on the cardiovascular, respiratory, endocrine, digestive, urinary, reproductive, and immune systems. Emphasizes the physiological basis of disease and the impact of pathological conditions on normal function, with laboratory experiences supporting system-based understanding and application to pharmaceutical sciences.
Pharmaceutics I & Lab (B)	Introduces the fundamental principles of pharmaceutics, including the physicochemical properties of drug substances, dosage form design, drug delivery systems, compounding techniques, and pharmaceutical calculations. Laboratory experiences provide hands-on application in the preparation and evaluation of pharmaceutical formulations.
Pharmaceutics II & Lab (B)	Builds upon foundational pharmaceutics concepts with emphasis on advanced dosage forms, biopharmaceutics, drug stability, manufacturing processes, quality assurance, and formulation optimization. Laboratory activities focus on the development, testing, and evaluation of pharmaceutical products and drug delivery systems.

Docusign Envelope ID: FA70563D-BA44-82C8-836B-F9F63D6655BB

Introduction to Pharmaceutical Sciences (B)	Provides an overview of the pharmaceutical sciences discipline and its role in drug discovery, development, manufacturing, regulation, and patient care. Students explore career pathways, foundational scientific principles, pharmaceutical research methods, biotechnology applications, and current issues affecting the pharmaceutical industry.
Molecular Biotechnology (B)	Examines molecular and cellular technologies used in pharmaceutical and biomedical research. Topics include recombinant DNA technology, gene expression, molecular cloning, genomic analysis, biologics development, biopharmaceutical production, and emerging biotechnology applications in drug discovery and therapeutic innovation.
Pharmacoeconomics (B)	Introduces economic principles and outcomes research used to evaluate pharmaceuticals and healthcare interventions. Students examine cost-effectiveness, cost-benefit analysis, healthcare resource allocation, formulary decision-making, market access considerations, and the economic impact of pharmaceutical therapies.
Pharmacology I (B)	Introduces the fundamental principles of pharmaceutics, including the physicochemical properties of drug substances, dosage form design, drug delivery systems, compounding techniques, and pharmaceutical calculations. Laboratory experiences provide hands-on application in the preparation and evaluation of pharmaceutical formulations.
Pharmacology II (B)	Builds upon foundational pharmaceutics concepts with emphasis on advanced dosage forms, biopharmaceutics, drug stability, manufacturing processes, quality assurance, and formulation optimization. Laboratory activities focus on the development, testing, and evaluation of pharmaceutical products and drug delivery systems.
Medicinal Chemistry (B)	Examines the relationship between chemical structure and biological activity of pharmaceutical agents. Students study drug design, structure-activity relationships, physicochemical properties, metabolism, molecular interactions, and strategies used to optimize therapeutic efficacy and safety in drug development.
Research Foundations & Ethics (B)	Introduces scientific inquiry, experimental design, data analysis, and ethical principles governing pharmaceutical and biomedical research. Topics include research methodology, responsible conduct of research, human and animal subject protections, data integrity, scientific misconduct, regulatory compliance, and ethical decision-making in pharmaceutical science and biotechnology.
Advanced Bioorganic Chemistry I (M, D)	Focuses on chemical structures, reactivity, and molecular interactions in biological systems. Content supports the early stages of drug discovery by establishing a chemical basis for understanding how small molecules interact with biological targets.
Advanced Bioorganic Chemistry II (M, D)	Applies bioorganic concepts to improve drug design. Emphasizing structure-activity relationships and mechanisms helps refine therapeutic candidates and support rational drug development.
Advanced Bioorganic Chemistry III (M, D)	Covers advanced synthetic organic methods, bioorthogonal reactions, and chemical biology tools applied to complex drug design, molecular probes, and target validation in drug discovery.
Drug Delivery I (M, D)	Introduces key principles governing the transport of pharmaceutical agents within biological systems. Emphasis is placed on physicochemical determinants of absorption, routes of administration, conventional dosage forms, and basic release kinetics affecting bioavailability and therapeutic performance.
Biostatistics and Computational Methods with Lab (M, D)	Focuses on statistical, analytical, and computational tools essential to pharmaceutical and biomedical research, including experimental design, data modeling, and laboratory-based analysis used in drug development studies and data-driven evaluation of therapeutic outcomes.
Applied Statistics for Health Care Research (M, D)	Applies statistical methods to pharmaceutical and biomedical research, supporting quantitative analysis of drug development, safety, efficacy, and outcomes consistent with pharmaceutical sciences.
Advanced Pharmaceutics I (M, D)	Focuses on the scientific principles underlying pharmaceutical product development by emphasizing the physicochemical properties of drug substances and excipients, preformulating studies, and foundational formulation concepts that influence stability, solubility, and dosage form design in the early stages of drug development.

Docusign Envelope ID: FA70563D-BA44-82C8-836B-F9F63D6655BB

Advanced Pharmaceutics II (M, D)	Addresses complex dosage forms and formulation strategies used in pharmaceutical product development, including modified-release systems, specialized delivery platforms, and formulation optimization, with consideration of manufacturing requirements and product performance across the applied development and evaluation phases of pharmaceutical sciences.
Advanced Pharmaceutics III (M, D)	Integrates formulation science with manufacturing processes, regulatory considerations, and quality systems, emphasizing Quality by Design principles, product lifecycle management, and evaluation of pharmaceutical products within regulatory and compliance frameworks representative of later-stage drug development and translational application in pharmaceutical sciences.
Graduate Pharmacology I (M, D)	Emphasizes foundational principles of pharmacokinetics, pharmacodynamics, and mechanisms of drug action, supporting comprehension of how drugs produce therapeutic effects and biological responses within living systems.
Graduate Pharmacology II (M, D)	Emphasizes advanced, system-based and therapeutic applications of pharmacology, focusing on drug efficacy, mechanisms of action, drug–drug interactions, and clinical relevance to support informed evaluation of pharmaceutical agents within complex biological systems.
Graduate Toxicology (M, D)	Examines toxicological mechanisms, dose–response relationships, and risk assessment methods to support the scientific evaluation of drug and biologic safety, toxicity, and regulatory considerations across the pharmaceutical development continuum.
Environment Toxicology (M, D)	Evaluates the biological and toxicological impacts of pharmaceutical and chemical agents in environmental contexts, supporting safety assessment, risk evaluation, and public health considerations related to pharmaceutical development, use, and exposure.
Analytical Methods with lab (M, D)	Provides training in analytical techniques essential to pharmaceutical sciences, supporting drug and biologic characterization, quality control, and validation in accordance with regulatory compliance requirements and scientific standards applicable to pharmaceutical development and evaluation.
Research Ethics and Safety (M, D)	Addresses ethical research practices, laboratory safety, and regulatory compliance requirements that govern the scientific study, development, and evaluation of drugs and biologics, supporting responsible pharmaceutical research and development.

Docusign Envelope ID: FA70563D-BA44-82C8-836B-F9F63D6655BB

5. Explain the impact of the proposed change on the current faculty and current and future students.

The proposed CIP code change will have no adverse impact on current faculty, enrolled students, or existing or future applicants.

- The reclassification requires no changes to faculty appointments, instructional assignments, workload distribution, or departmental resources.
- Program admission standards, credit hour requirements, course offerings, and time-to-degree completion will remain identical across all degree levels (BS, MS, PhD).
- The change provides positive value for current and future graduates by ensuring their official academic classification accurately aligns with industry standards, improving degree clarity for potential employers, research institutions, and federal workforce reporting.

Because the curriculum already includes the scientific depth and learning outcomes defined under CIP 51.2010, this reclassification is an administrative alignment rather than a structural or programmatic overhaul, ensuring that the program classification is fully aligned with current instructional content and student preparation without disrupting faculty or student experiences.

6. Provide evidence that considerations have been given to the impact of this CIP change on existing programs at the university and the possibility that the program using the new CIP will duplicate already existing programs at other SUS institutions.

Florida A&M University has conducted a thorough review of the proposed CIP code change to evaluate its impact on existing academic programs within the University and across the State University System (SUS).

- **Internal Impact (FAMU):** The requested reclassification applies exclusively to FAMU's existing, long-standing Bachelor of Science, Master of Science, and Ph.D. programs in Pharmaceutical Sciences, creating no new degree programs, concentrations, or internal instructional conflicts.
- **SUS Impact & Duplication Analysis:** Because this action transitions an active, established program to its accurate, discipline-specific classification, it does not constitute a new or duplicate program within the State University System (SUS). While the University of Florida offers a Master's in Pharmaceutical Sciences under CIP Code 51.2099 and a Ph.D. under CIP Code 51.2010, and the University of South Florida offers a master's program in Pharmaceutical Nanotechnology under CIP Code 51.2010, reclassifying FAMU's offerings maintains appropriate system balance.
- **Institutional Differentiation:** FAMU's programs share foundational scientific pillars with these SUS offerings but maintain distinct specializations aligned with the University's mission, including unique research concentrations across degree levels and targeted workforce pipelines in life sciences, biotechnology, and regulatory affairs.

Docusign Envelope ID: FA70563D-BA44-82C8-836B-F9F63D6655BB

Reclassifying FAMU's programs to CIP Code 51.2010 represents an administrative realignment that improves systemwide reporting accuracy and maintains appropriate institutional differentiation without impacting state resource allocation or system efficiency.

7. If applicable, please explain how the CIP change will impact the program's listing in a Programs of Strategic Emphasis (PSE) category. Please provide a rationale to support the need for the program to be included in a PSE category if it is not already included in a PSE category.

The proposed reclassification to CIP Code 51.2010 (*Pharmaceutical Sciences*) directly impacts FAMU's program alignment within the State University System (SUS) Programs of Strategic Emphasis framework by establishing formal recognition for the Master of Science degree as a high-priority field critical to workforce development, innovation, and economic growth.

- Reclassifying to CIP 51.2010 ensures that the master's program is properly categorized under Florida's STEM and Health Programs of Strategic Emphasis categories, reflecting its scientific rigor, drug discovery research, and technical training.
- Formally placing the master's program within an active PSE category aligns FAMU's graduate degree output with Board of Governors Strategic Plan goals and Performance-Based Funding accountability metrics regarding STEM and workforce-aligned degree production.
- The program's curriculum—grounded in advanced chemistry, pharmaceutics, pharmacology, and regulatory science—already fulfills all academic and industry-readiness criteria required for PSE designation. Reclassification formally captures this alignment without altering degree requirements or expanding program scope.

This administrative realignment enhances consistency, accuracy, and transparency in PSE reporting while highlighting FAMU's contribution to Florida's high-demand life sciences and biotechnology talent pipeline.

8. For baccalaureate programs, please identify any related changes to the approved common prerequisites and degree program length.

There are no changes to the approved common prerequisites or degree program length for the Bachelor of Science in Pharmaceutical Sciences as a result of this proposed CIP code reclassification.

- The common prerequisites will remain the same.
- The baccalaureate degree program will continue to require 120 credit hours for completion, maintaining full compliance with the Board of Governors' regulations on undergraduate degree length.
- The reclassification has no impact on existing degree progression, curriculum structure, or established time-to-degree completion for undergraduate students.

Docusign Envelope ID: FA70563D-BA44-82C8-836B-F9F63D6655BB

9. If this is a baccalaureate program, please list the common prerequisites for the current CIP code as listed in the program's curriculum and the common prerequisites associated with the new CIP code.

Pharmaceutical Sciences (CIP 51.2099)

Course Number	Course Name	Institution
		FAMU
MAC X311[Core]	Calculus I	✓
MAC X147	Precalculus Mathematics	✓
PHY X049/L	General Physics with Calculus II & Lab	✓
PHY X048/L[Core]	General Physics with Calculus I & Lab	✓
CHM X211/L	Organic Chemistry II & Lab	✓
CHM X210/L	Organic Chemistry I & Lab	✓
CHM X046/L	General Chemistry II & Lab	✓
CHM X045/L[Core]	General Chemistry I & Lab	✓
BSC X011/L	General Biology II & Lab	✓
BSC X010/L[Core]	General Biology I & Lab	✓

Under requested CIP Code 51.2010, the following state-approved substitutions remain applicable: College Algebra (MAC X105) and Trigonometry (MAC X114) may substitute for Precalculus (MAC X147); General College Physics I/II with Lab (PHY X053/L and PHY X054/L) may substitute for Physics with Calculus I/II with Lab (PHY X048/L and PHY X049/L).

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FLORIDA A&M UNIVERSITY

Board of Trustees

Academic and Student Affairs Committee Meeting

Thursday, September 24, 2026
8:30 a.m.
The Grand Ballroom

Committee Members: Nicole Washington, Chair
Raphael Vazquez (Vice Chair), Jamal Brown, Kenneth Jones, and Kennedy Williams

AGENDA

I.	Call to Order	Trustee Nicole Washington
II.	Roll Call	Ms. Valeria Singleton
III.	Follow-up Item(s)	Trustee Washington

ACTION ITEMS

IV.	June 11, 2026 Meeting Minutes	Trustee Washington
V.	Academic Calendars (2027-2028 and 2028-2029)	Dr. Allyson Watson
VI.	Post-Tenure Review	Dr. Watson
VII.	Tenure Upon Appointment	Dr. Watson
VIII.	Annual Textbook and Affordability Report	Dr. Watson
IX.	Self-Supporting Programs Annual Report	Dr. Watson
X.	CIP Code – Pharmaceutical Sciences, Ph.D.	Dr. Watson

INFORMATION ITEMS

XV.	Academic and Student Affairs Update • ASA Dashboard	Dr. Watson and Dr. Hudson
XV.	Adjournment	

Docusign Envelope ID: FA70563D-BA44-82C8-836B-F9F63D6655BB

CIP Change Request Form – Signatures Page

John Cooperwood	9/28/2026
Signature of Requestor/Initiator	Date
Vanessa Sheppard	9/30/2026
Signature of College Dean/Chair	Date
Allyson Watson	9/28/2026
Signature of Provost	Date