



Board of Advisors Meeting

July 25, 2024

FLORIDA
SOUTHWESTERN
STATE COLLEGE

SCHOOL OF PURE AND APPLIED SCIENCES

SPAS Board of Advisors Meeting Agenda



Welcome

- FSW and SPAS Updates
- AS degree programs outcomes
- Grant applications
- Recommendations for future meeting times



FSW Overview/Updates

Over 13,000 students currently enrolled

~ 70% in our gen ed program / ~ 30% in workforce programs

~ 20% dual enrolled, ~ 95% FL residents

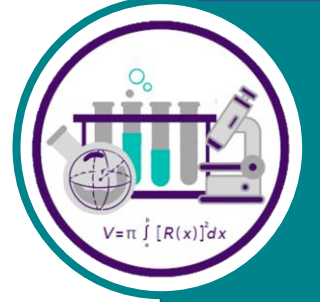
- Serving Lee, Collier, Charlotte, Hendry and Glades Counties
- Open enrollment institution
- Granted Hispanic Serving Institution status in 2020
- **Accredited by SACSCOC**

Update – Based on recent FL State legislation, we are currently seeking accreditation through the Higher Learning Commission (HLC). We are in the last phase of the process, which will include a site visit this spring.

As part of this process, FSW has also updated its Mission Statement

SPAS Overview

We offer courses in 2 of the 5 basic general education areas – mathematics and natural sciences (others are communication, humanities, and social sciences)



Faculty and Staff

- 3 Departments
 - Department of Biological Sciences
Biology, Microbiology, Anatomy & Physiology, Environmental Sci
 - Department of Physical Sciences
Physics, Chemistry, Earth Sci, Geology, Oceanography, Astronomy
 - Department of Mathematics
Developmental math through Differential Equations
Basic statistics
- Over 100 Faculty and Staff
 - ~50 full time faculty
 - ~50 adjuncts
- Over 500 course sections a semester
 - Most at the introductory level

Degree Programs

- Associates of Arts (AA)
 - 60 Credit Hours
 - Transfer Degree
- Associate of Science (AS) in Science and Engineering Technology
 - 60 Credit Hours
 - Workforce Program
 - Based on Chemical Technology AS
- College Credit Certificate (CCC) in Scientific Workplace Preparation
 - 30 Credit Hours
 - Embedded in our AS degree

**Board of
Advisors**



Board of Advisors

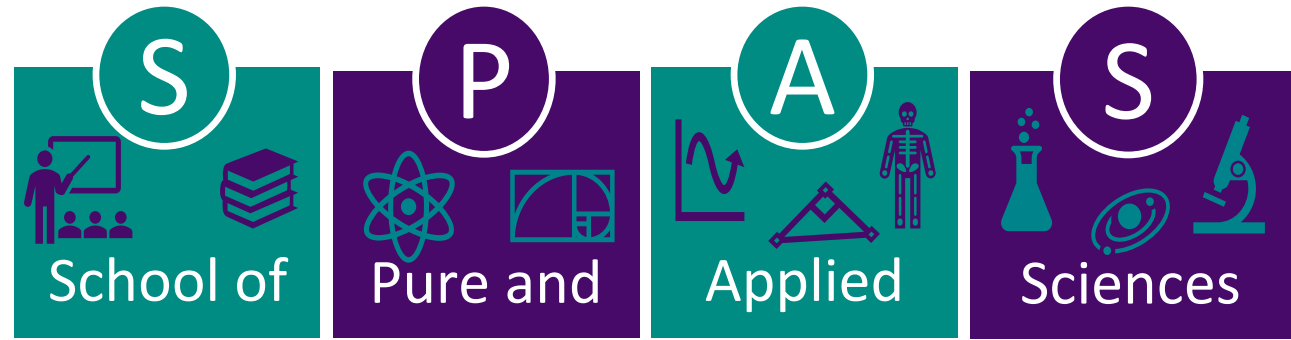
- Wesley Burnside The Mannheimer Foundation, Inc
- Tyler Fawcett Arthrex
- Justin Gill Arthrex
- Adrienne Martin Six Mile Cypress Slough Preserve
- Daniel Marulanda Hertz
- Eric Milbrandt Sanibel Captiva Conservation Foundation
- Ben Sylvia NeoGenomics



Our Workforce Programs

Need to align with regional demand

Based on State approved frameworks



AS in Science and Engineering Technology

The Associate in Science (AS) in Science and Engineering Technology program offers a sequence of courses that presents coherent and rigorous content needed to prepare for employment and/or promotion in occupations where a **general knowledge of scientific and/or engineering methodologies** is required.



Certificate in Scientific Workplace Preparation

The College Credit Certificate (CCC) in Scientific Workplace Preparation prepares students for **entry-level employment in a science or engineering laboratory**. It improves the student's communication, information technology, and math skills while developing basic scientific laboratory skills.



Framework for CCC / AS Science & Engineer Technology

- 01.0 Demonstrate appropriate communication skills.
- 02.0 Demonstrate appropriate mathematical skills to solve basic problems in the sciences.
- 03.0 Demonstrate appropriate interpersonal skills, decision-making strategies, and awareness of self-worth, ethics and values.
- 04.0 Demonstrate computer competence.
- 05.0 Demonstrate basic knowledge of scientific concepts.
- 06.0 **Demonstrate basic knowledge of chemical concepts.**
- 07.0 **Demonstrate knowledge of chemical kinetics and thermodynamics.**
- 08.0 Demonstrate skills in the safe handling of chemical materials and equipment.
- 09.0 Exercise safety in the laboratory and adhere to safety, health and environmental regulations.
- 10.0 **Demonstrate conceptual and laboratory knowledge in the area of organic chemistry and/or analytical chemistry and/or physics and/or biology and/or engineering and/or biotechnology and/or chemical instrumentation. Students will be competent in two or more of the following areas of specialization:**

Specialty I: Organic Chemistry, Specialty II: Physics, Specialty III: Biology, Specialty IV: Engineering
Specialty V: Biotechnology, Specialty VI: Chemical Instrumentation

CHM

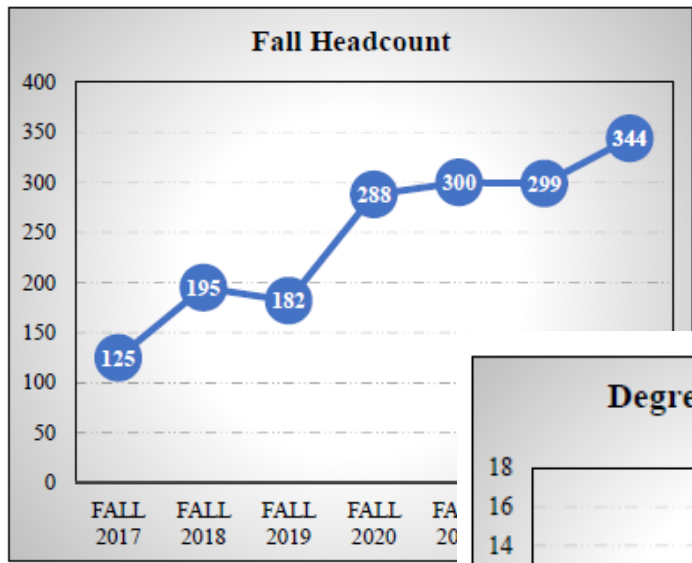
CHM/BIO
/PHY

Recommended
Course Tracks

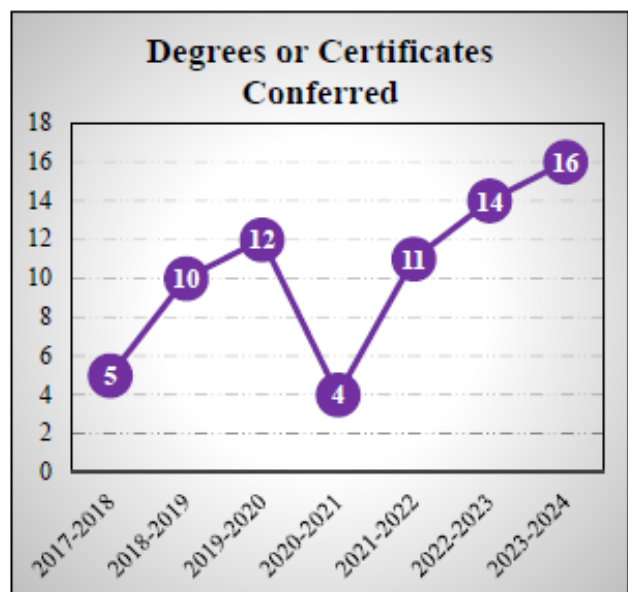


AS CCC Assessment Reports – AY 23-24

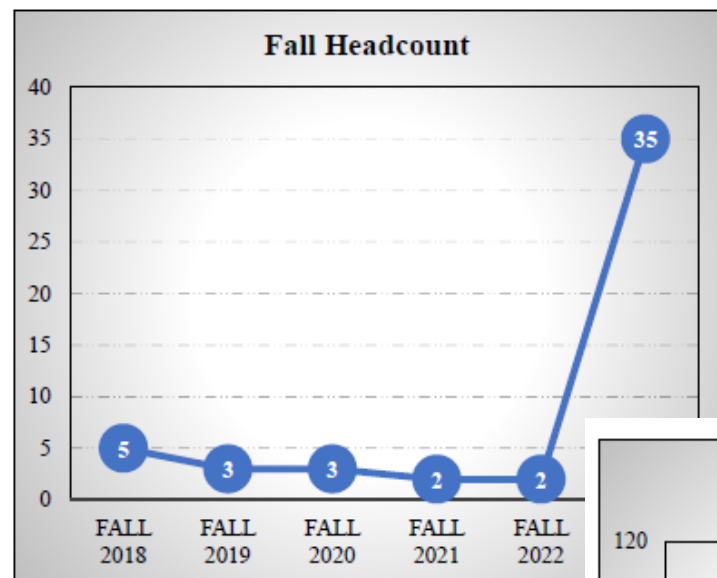
Enrollment in Fall Term



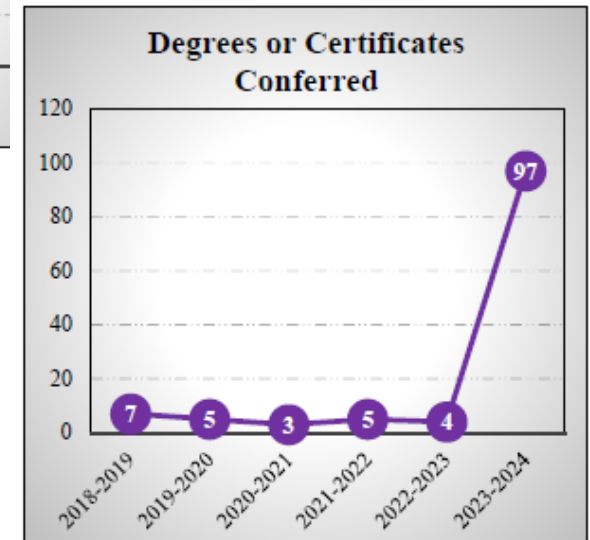
AS



Enrollment in Fall Term



CCC





AS Assessment Report – Update

- Proposed changes have since been submitted and approved through FSW Curriculum Committee, and are scheduled to go into effect for the 2024 – 2025 Academic Year.
- Changes included the broadening of the required science courses to include biology and physics as a second advanced science class (still required to complete CHM)
- Increased Electives list to include certain required courses in the AA degree, and an internship course

SPAS Updates – FSW and AS Program Mission



The mission of Florida SouthWestern State College is to provide affordable and exceptional academic, cultural and workforce opportunities in a supportive environment that productively transforms the lives of our students and enhances the economic vitality of the communities we serve.

Our mission for the Associate in Science degree in Science and Engineering Technology is to cultivate a community of learners who not only acquire fundamental scientific knowledge and mathematical problem solving skills but also develop effective communication abilities and ethical awareness. We are dedicated to preparing our students to excel in the sciences and engineering by equipping them with the technical knowledge and practical skills needed to solve real world problems, all while fostering a deep commitment to ethical conduct, self awareness, and the ability to engage meaningfully with others.



AS Program Goals – Initial Rough Draft

Effective Communication and Interpersonal Skills: Graduates will demonstrate appropriate written and oral communication skills, interpersonal skills, decision-making strategies, and awareness of self-worth, ethics, and values.

Scientific and Mathematical Proficiency: Graduates will demonstrate appropriate mathematical skills to solve basic problems in the sciences and exhibit a fundamental understanding of scientific and chemical concepts, including chemical kinetics and thermodynamics.

Technical and Laboratory Competence: Graduates will demonstrate computer competence and possess conceptual and laboratory knowledge in areas such as organic chemistry, physics, biology, engineering, biotechnology, and chemistry instrumentation.

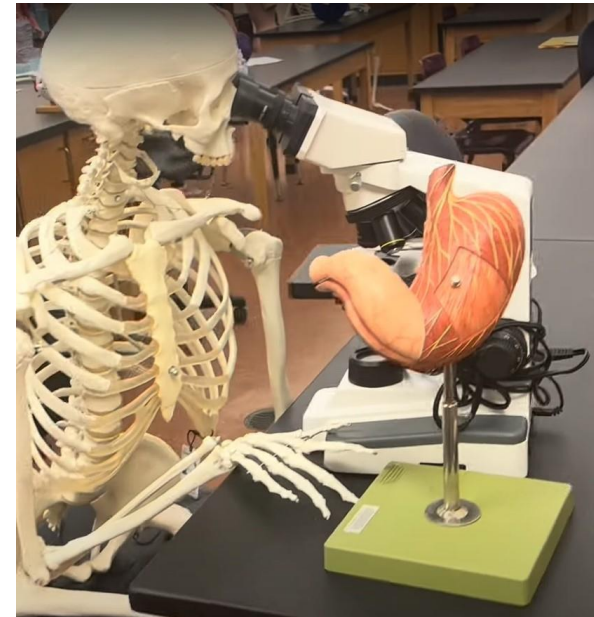
Safety and Regulatory Adherence: Graduates will demonstrate skills in the safe handling of chemical materials and equipment, exercise safety in the laboratory, and adhere to safety, health, and environmental regulations.



New CCC Proposal Foundations of Health Science

- 01.0 Demonstrate the ability to communicate and use interpersonal skills effectively.
- 02.0 Demonstrate appropriate mathematical skills to solve basic problems
- 03.0 Demonstrate the ability to critically reflect on the human condition through the interpretation of human artwork and/or thought.
- 04.0 Demonstrate an understanding of basic behavioral science concepts and principles used in the analysis of behavioral, social and/or cultural issues, past and present, local and global.
- 05.0 Demonstrate an understanding of anatomy and physiology concepts in both illness and wellness states.
- 06.0 Exercise safety in the laboratory and adhere to safety, health and environmental regulations

PROPOSAL NOT ACCEPTED AT THE STATE LEVEL





What skills are you looking for?

Technology?

Programs?

Lab Skills?

Lab Safety?

HR professionals reports –
Soft Skills

- Critical thinking
- Problem Solving
- Ability to deal with complexity and ambiguity
- Communication



Grants

- S-STEM – Officially submitted in March (~\$950K)
- ATE – Working on submitting (~\$475K)
 - Goal of grant is to provide resources (time for faculty development, equipment funds, travel funds) to align current course lab activities more closely with current industry practices.



New courses and/or Programs?

Courses

- Advanced Statistics
- Data Analysis
- Biotechnology (AS track)

New CCC

- Data Science Technician?

New AS Programs

- **Biotechnology Laboratory Technology AS (60) –**
 - ~ 3 new courses
 - **Biotechnology Specialist CCC (19)**
 - **Biotechnology Laboratory Specialist CCC (30)**
- Environmental Science Technology AS (60)
 - ~ 5 new course
 - Environmental Science Technician CCC (19)
 - Hazardous Materials Specialist (14)
 - Water Quality Technician CCC (12)



New courses and/or Programs?

New AS Programs – exploring often requested courses

- Zoo Animal Technology AS (60) –
 - Nonfarm Animals Caretakers/Animal breeders/Animal Trainers. . .
 - No embedded certificates
 - Would require creation of a few new courses or be an internship heavy program
 - Clinical Courses ?
- Might be able to lead to Veterinary Technician skills ??
- Could call it AS in Animal Science??
- Credentialed to teach??



Standards

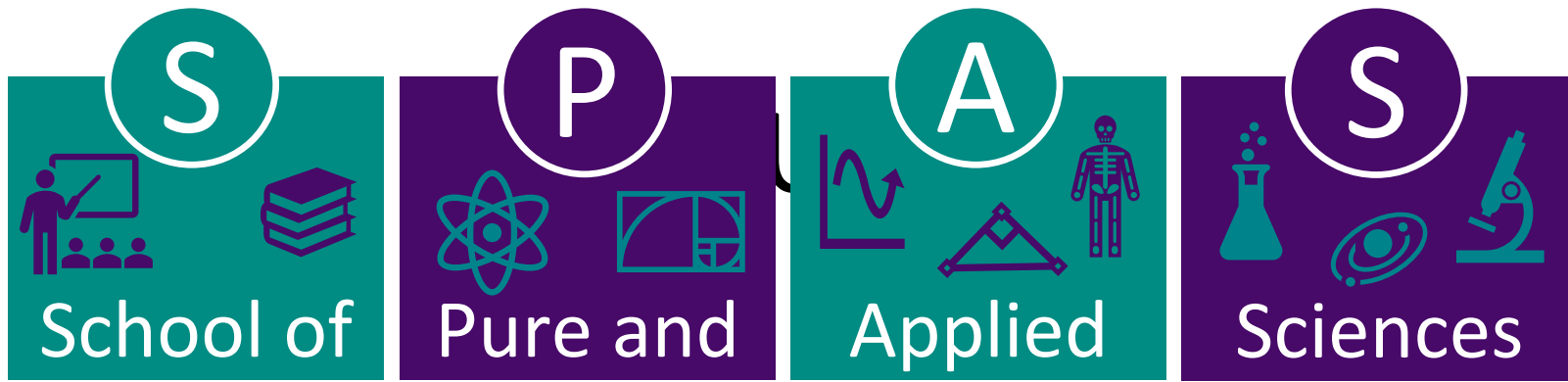
After successfully completing this program, the student will be able to perform the following:

- 01.0 Prevent, treat and control diseases and parasites of animals.
- 02.0 Demonstrate interpretation and guest service skills
- 03.0 Develop and maintain Animal Management Techniques
- 04.0 Manage animal nutrition and feeding.
- 05.0 Operate and maintain instruments and equipment.
- 06.0 Provide first aid for animals.
- 07.0 Collect laboratory specimens.
- 08.0 Analyze and keep records.
- 09.0 Manage animal, visitor and worker safety.
- 10.0 Identify animal species.
- 11.0 Interpret and observe laws, rules and regulations relative to operation.
- 12.0 Dispense medicine and supplies.
- 13.0 Manage, maintain and repair facilities.
- 14.0 Demonstrate leadership, employability, communication, human and public relations skills.
- 15.0 Observe and interpret animal behavior.



Next Meeting

- End of January or Beginning of February?
 - Jan 30th ?
- Best time of day?
- Zoom or in person?



Thank You!