FAU
BOARD OF TRUSTEES
Florida Atlantic University

Item: AS: A-3

COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Tuesday, November 15, 2022

SUBJECT: REQUEST FOR APPROVAL OF PROGRAM REVIEW – DOROTHY F. SCHMIDT COLLEGE OF ARTS AND LETTERS

PROPOSED COMMITTEE ACTION

Request approval of academic program review for Public Administration (CIP 44.0401) in the Dorothy F. Schmidt College of Arts and Letters

BACKGROUND INFORMATION

Under Florida Board of Governors Regulation 6C-8.015 adopted March 29, 2007, all academic degree programs in State universities must be reviewed at least every seven years. Program reviews ensure that academic programs are administered and delivered effectively, efficiently, and consistent with FAU's mission and the Board of Governors' strategic priorities. The results of program reviews are expected to inform strategic planning, program development, and budgeting decisions at the university level, and, when appropriate, at the state level.

Academic Program Review at FAU includes a few additional steps:

- The self-study prepared by the program's department will be submitted to an independent review committee comprised of 2-5 individuals. The committee will include at least one external reviewer who will serve as a content expert in the discipline. Other members will include nominees of the head of the academic unit in consultation with the unit's faculty.
- The external reviewer will conduct a day and a half site-visit. A written report of the reviewer's findings will be submitted to the program's review committee.
- In addition to self-studies and external reviewer reports, action plans will be submitted to the Board of Trustees for approval.

IMPLEMENTATION PLAN/DATE

The Academic Program Review summary will be submitted to the BOG in November 2022 pending full Board approval.

FISCAL IMPLICATIONS

N/A

Supporting Documentation: 2022 Academic Program Review Executive Summary & PPT

Presented by: Dr. Michael Horswell, Dean, Dorothy F. Schmidt College of Arts & Letters

Phone: 561.297.3803

2020 Academic Program Review Executive Summary

School of Public Administration

Public Administration [CIP 44.0401]

Review Team

Rajade M. Berry-James (North Carolina State University)
Kurt Thurmaier (Northern Illinois University)
Paul Hart (Florida Atlantic University)

Part 1: Overview

A. Degree Programs by Level

Bachelor's (BA):	Public Management (BPM) Public Safety Administration (BPSA)
Master's (MA):	Public Administration (MPA) Nonprofit Management (MNM)
Doctor of Philosophy (Ph. D.)	Public Administration (Ph. D.)

B. Mission and Purpose

The mission of the School of Public Administration is to provide an intellectual, analytical, technical, and practical education to advance the state of global knowledge in public administration, public policy and nonprofit management, and to enhance ethical public service within our service region.

C. Major changes since the last program review

The largest change since the last Program Review was the move of the School from a now defunct and renamed College (now the College of Social Work and Criminal Justice) into the Dorothy F. Schmidt College of Arts and Letters.

Part 2: Findings

A. Strengths

1. The reviewers identified both the John Scott Dailey Florida Institute of Government and the Leroy Collins Public Ethics Academy as exemplary units that support FAU's community engagement platform. The Institute has conducted 2000 workshops and seminars in the past five years, as well as 300 technical assistance projects, all of which engaged over 40,000 public sector employees. The Academy provides training for local government agencies. The executive director for the Agency is also the chair of the Palm Beach County Commission on Ethics and the Palm Beach County Inspector General Review Committee. These units create important synergies between FAU and the community.

2. Faculty have an impressive record of success in winning grants and/or obtaining other sources of external funding. In recent years, SPA faculty have won 4 NSF (National Science Foundation) grants and have earned almost $1.5 million in grants Grants are important in helping FAU achieve its ambition of becoming a Carnegie Research 1 institution, in addition to contributing to the school's growing reputation, which in turn can help faculty gain additional grants. In addition, SPA faculty have a record of collaborating on grants with faculty in other units on research of mutual interest, contributing to the university's national reputation for excellence.

3. The School has an exemplary advisory board whose members include representatives from state, county, and city governments, as well as the non-profit and private sectors, current students, and alumni. The members of the board serve as ambassadors for the school to the community and to potential donors, providing opportunities to advance the School's interests.

4. The relocation to the Dorothy F. Schmidt College of Arts and Letters has led to strong support from the College's Dean, including approving new hires and advocating for the non-profit management area of the School to be viewed as complementary to the College's other programs. This provides the opportunity to expand the scope of non-profit management in the School, increase the number of prospective students, and align the area with other programs and priorities in the College.

B. Challenges

1. The review team notes that it is important for the School to obtain new streams of income/funding, given the level of state funding and the low tuition rates (compared to other SUS institutions). The challenge is to develop entrepreneurial initiatives (like self-supporting programs) and marketing strategies to attract more students (and perhaps more donors) to the School.

2. The review team notes that while the School of Public Administration has made strides toward becoming more diverse and inclusive in terms of both its faculty and student populations, there is still work to be done in this area, particularly in the racial and ethnic diversity of students in the graduate programs. This is a university-wide challenge, but SPA has made initial steps towards addressing this challenge by revising hiring processes for new faculty (which should improve faculty diversity and graduate student diversity, as graduate students frequently choose their university on the basis of specific faculty members).

3. SPA continues to run five academic programs, despite the recommendation of the previous program review to consider shutting down one of them. Even with recent new hires, it is unclear that there are enough resources to support all five. The challenge is to allocate limited resources effectively (particularly teaching resources) to effectively deliver all five programs.

4. The review team notes the challenge of continuing progress toward becoming a Research 1 university, given the available resources. While SPA has been contributing to the effort to progress toward R1 status through obtaining external grants, it will be a challenge to continue to grow in this area without the ability to provide differential teaching loads to research active and productive faculty. Without resources to replace the teaching of research active faculty, productive faculty may not have additional time to obtain additional grants.

5. In the wake of the global pandemic, SPA, like many other units and universities, is faced with the challenge of balancing the expected shift to online instruction with the pedagogical needs of its students, as well as the imperative to draw students back to campus.

C. Recommendations and Opportunities

1. The review team recommends pursuing synergies between the Ethics Academy, the Institute of Government and the degree programs. These synergies could create new revenue, promote the mission of the school, and strengthen the SPA brand. The Institute and Academy could create experiential learning opportunities (and thus job training) for students, as well as paid or unpaid internships, and research opportunities for graduate students.

2. The review team recommends creating and identifying strategic marketing strategies for the School, incorporating both internal and external stakeholders. Consulting the advisory board and community partners on the strategies to use, as well as using leading national SPA's as benchmarks should help define the strategy.

3. The review team recommends establishing a program-specific diversity plan in order to attract more diverse faculty and students, making a climate of inclusion integral to the school's mission. The review team recommends attending recruitment events supported by national organizations that support this mission. Likewise, they recommend including Diversity, Equity and Inclusion as part of the School's assessment process.

4. In line with the previous program review, the review team recommends scrutinizing whether one of the degree programs, the Master's of Nonprofit Management, is necessary. Though they acknowledge the niche demand for the skills the MNM offers, they ask that the School consider making nonprofit management a track or concentration within the Master's of Public Administration.

5. The review team recommends considering differential faculty loads for research active faculty, in the interest of helping the university achieve R1 status. They recommend 2:2 teaching loads for research active faculty. They also recommend encouraging collaborative research, as this is standard in the discipline, rather than the single-authored publications SPA's tenure and promotion documents emphasize. In accordance with this recommendation, they encourage SPA to more clearly articulate tenure expectations by referring to rankings of academic journals and emphasizing highly ranked journals as venues for faculty publications. This recommendation should also help attract Ph. D. students, as it should improve the scholarly reputation of the School.

6. The review team notes that faculty are insufficiently informed of the Office of Sponsored Research's policies on distribution of indirect costs for grants back to the School and to the Primary Investigator. Improving communication on these policies may increase faculty participation in sponsored research.

7. The review team recommends that faculty gain certification for online instruction from COCE (including eDesign, Quality Matters, and ACUE certification) in order to ensure the quality of online instruction. There are financial incentives for faculty to do so, of which they should be informed.



FLORIDA ATLANTIC UNIVERSITY

Dorothy F. Schmidt College of Arts and Letters

Academic Program Review

School of Public Administration

Board of Trustees
Committee on Academic
and Student Affairs
November, 2022



College of Arts and Letters Overview

School of the Arts

Music, Theatre & Dance, Visual Arts & Art History, Creative Writing, Theatre Lab and the University Galleries

School of Architecture

Humanities

English; History; Languages, Linguistics & Comparative Literature; Philosophy

School of Communication & Multimedia Studies

Social Sciences

Anthropology, Political Science and Sociology

School of Public Administration

Peace, Justice, and Human Rights

University platform including the Arthur and Emalie Gutterman Family Center for Holocaust and Human Rights Education, Barb Schmidt Fellowship: Cultivating Community Involvement, Advocacy and Social Change, and the Leon Charney Diplomacy Program

School of Interdisciplinary studies

Body, Mind, & Culture; Women, Gender & Sexuality Studies; Comparative Studies (Ph.D.); Data Science in Society (MS); Global Studies; Jewish Studies; and the Center for the Study of Values and Violence after Auschwitz

…and so much more!

FAU
DOROTHY F. SCHMIDT
COLLEGE OF ARTS AND LETTERS
Florida Atlantic University

2021-22 Program Review
Dorothy F. Schmidt
College of Arts and Letters

School of Public Administration

Review Team:
RaJade M. Berry-James (North Carolina State University)
Kurt Thurmaier (Northern Illinois University)
Paul Hart (Florida Atlantic University

"If ever our civilization collapses, it will be mainly due to the breakdown of administration." – W. B. Donham





School of Public Administration

Degrees

Bachelor's in Public Management (BPM)

Bachelor's in Public Safety Administration (BPSA)

Master's in Public Administration (MPA)

Master's in Nonprofit Management (MNM)

Ph. D. in Public Administration

Undergraduate Majors: 296 (144 BPM, 152 BPSA)

Graduate Majors: 70 (57 MPA or Ph. D., 13 MNM)

Grants: SPA Faculty have been awarded almost $1.5

million in grants, including 4 NSF grants.

Faculty: 11 tenured or tenure-line, 1 instructor



The School of Public Administration's graduate programs were recently ranked 81st in the nation for Public Affairs

Source: FAU's IEA Departmental Dashboard Indicators, Fall 2021

School of Public Administration Highlights



Associate Professor Qiozhen Liu recently published a peer-reviewed journal article examining the relationship of overhead expenditures to attendance at events held by arts and cultural non-profit organizations. His findings were included in an article in *The Conversation*, which has received more than 29,000 views and were also reprinted in the *Chronicle of Philanthropy*.



Ph. D. Candidate Ryan J. Lofaro was recently chosen as a Founders' Fellow by the American Society for Public Administration (ASPA). He will present his work at the ASPA national conference. He will also receive year-long mentorship from a professional in his field.



The Leroy Collins Public Ethics Academy has been researching ethics and providing training for local government agencies since 2009. Since 2017, the institute has coordinated approximately 2000 workshops and seminars, and 300 technical assistance projects, engaging over 40,000 public sector employees. The Academy also provides training for local government agencies. The executive director serves as the chair for the Palm Beach County Commission on Ethics and the Palm Beach County Inspector General Review Committee.

School of Public Administration
Selected Program Review Recommendations

- Develop synergies between the Leroy Collins Public Ethics Academy (LCPEA), the Institute of Government (IOG) and the degree programs in the School of Public Admin.
- Develop marketing strategies, incorporating both internal and external stakeholders.
- Consider making the nonprofit management Master's degree (MNM) a track within the more popular Master's in Public Administration (MPA) in order to consolidate resources
- Establish combined degree programs for BPM to MPA and BPSA to MPA in order to attracts students to graduate programs and produce more degrees

- Actions to be taken in response:
  - Focus on fundraising through the LCPEA. Explore further internship and technical assistance opportunities for SPA students through the networks created by the LCPEA and the IOG.
  - Work with College Communications and university-wide digital marketing initiatives in order to better market SPA programs.
  - Continue to promote and build the MNM degree through Spring of 2024, at which time the School will revisit this suggestion and reorganize as a track within the MPA if necessary.
  - Design, propose and approve combined degree programs from BPM and BPSA to MPA and MPA.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Department of Biological Sciences

Program Review Executive Summary
September 2022

Department of Biological Sciences
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The 21st Century brings new career opportunities in the life sciences, ranging from biomedical research to environmental sciences. Many of these new jobs require a non-traditional education that crosses disciplinary boundaries. The mission and challenge for the Department of Biological Sciences is to train students for traditional careers such as medicine as well as emerging careers in a global economy.

Headcount Statistics 2020-2021

- Undergraduate Students: 2605
- MS students: 91
- PhD students: 97
- Faculty: 26

Degree Programs

BS Biological Sciences (including option of: Honors in the major)
BA Biological Sciences
BS Medical Biology
MS Biological Sciences (thesis)
MS Biological Sciences (non-thesis)
MS Marine Science and Oceanography (MSO)
MS Environmental Science (shared with Geosciences)
Master of Science in Teaching (MST) Biological Sciences
Professional Science Masters (PSM) Business Biotechnology
BS/MS fast-track combo program
PhD Integrative Biology (tracks: biomedical science, environmental sciences, marine science and oceanography, and neuroscience)

Major Changes Since the Last Program Review

Leadership
- The role of chair was assumed by Dr. Sarah Milton since the last program review in 2014-15
- Director of the Center for Environmental Science was established on the Davie campus

Faculty and Staff
- Biannual retreats were implemented and consistently rotate between all three main campuses (Boca, Davie, Jupiter); retreats focus on curriculum discussions or seminars
- In the past three years the Department has lost 11 of 31 faculty including our most research active faculty, with 8 of those faculty leaving in spring/summer of 2021
- Some hiring occurred: one full professor, a partner opportunity hire, with no research assignment; one instructor to replace another instructor; one half associate professor; a co-hire with Harbor Branch Oceanographic Institution, who started August 2021; and, one assistant research professor, with no permanent teaching assignment.
- Teaching load redistributions and optimization of space was implemented on multiple campuses to the benefit of commuter students
- A valued team member in a key staff position (lab coordinator at Boca campus) passed away from Covid-related complications in fall 2021
- A new lab coordinator at Boca campus, an FAU Alumna, was hired recently

Curriculum
- The BS Medical Biology program was developed and implemented
- MSO was developed and implemented jointly with Harbor Branch Oceanographic Institute (HBOI)
- The PhD Integrative Biology program added new tracks in environmental science, biomedical science, and marine science
- e-Learning *Introduction to Biology* course was designed and will be implemented shortly
- LifeLine was eliminated
- LifeLine materials are being incorporated into lab sections of introductory biology courses

Part 2: Findings

Reviewer Identified Strengths/Opportunities

- **Well-established undergraduate program and expanding graduate programs** – the largest stand-alone major at FAU; the Department offers a well-balanced curriculum and provides students a variety of opportunities to perform directed independent research
- **Dedicated faculty and staff members** – remarkably collegial and engaged faculty; dedicated to their research, teaching, and service missions;
- **Increasing research activity, clear research focus, and collaboration opportunities** – despite faculty losses, overall grant activity remains high, with nearly 50% of submitted grants funded; biology faculty continue to take advantage of collaborative extramural funding opportunities to rebuild strength areas such as neuroscience
- **Strong service/Community engagement** - biology faculty are heavily involved in community outreach and service – most faculty have 5-15% service assignment; engagement activities include presentations to local libraries, museums, local civic clubs, K-12 schools; and mentoring for various youth organizations in the communities
- **Consideration of Diversity, Equity, and Inclusion (DEI)** - diversity among students in the Department and across FAU is high; Department has recently enhanced its efforts in diversity, equity, and inclusion
- **Potential Collaborations with Higher Education Institutions in Florida to Train Students in South Florida** - opportunities for collaboration *may be* found by combining talent and resources among various Florida state universities operating in the same geographical area (Davie Campus and Miami Dade College)

Reviewer Identified Weaknesses/Challenges

- **Faculty vacancies impact the Department's mission** – faculty losses in the past three years make it difficult to: teach all the courses that are required for the ~2,500+ majors especially a range of upper-level courses (4000 and graduate level), conduct graduate training, do research, and obtain extramural funding
- **Faculty morale** – recent loss of faculty members and perceived lack of transparency has resulted in low morale amongst faculty; the perception is that the Pillar program and DoR have diverted substantial resources including startup funds and space; faculty feel under-supported and under-appreciated; faculty expressed dissatisfaction with recent policies imposed by DoR for increasing training for faculty, staff, and students, and the punitive requirements by the IACUC
- **Infrastructure maintenance, space allocation, and research support** – faculty and staff expressed concern that department facilities have become dilapidated; student lab fees can no longer be used to buy or repair laboratory equipment in teaching labs; only consumable supplies can be purchased; equipment purchases therefore now rely on funding from the Tech Fee program; space allocation decisions, are also perceived to be taken unilaterally by DoR

- **Multi-campus presence** – commuting time between campuses presents an obstacle for faculty as well as for graduate and undergraduate students; course offerings at the different campuses can affect undergraduate students, and could increase time to degree, graduation rates, and decrease retention; faculty not on the Boca campus felt isolated from the rest of the faculty at the Boca campus; coordination of the biology presence on all campuses needs attention, but the concern is most acute in Davie
- **Curriculum and Class size requirement** – the perception amongst faculty and Department administration is that the minimum class limits imposed by the Provost's Office make it challenging to offer upper-level or graduate courses
- **Staff** – lab coordinators expressed that the Department is understaffed; lab coordinators asked be included in faculty meetings to be better aware of discussions about policies and actions that may affect them; staff could also benefit from a clear path for career development and a career ladder
- **Budget** – current budget model at FAU is not a data-informed approach to resource allocation; efficiency and transparency need to be improved; current fee structure is not adequate to ensure the curriculum delivery for the undergraduate teaching labs
- **Competition from other Florida Universities** – loss of students at the Davie Campus was due, at least in part, to the addition of a four-year degree in biological sciences at Miami Dade College, which has its campus in the same location; Competition from other universities which are in the same geographical locations as the various FAU campuses should be considered as a potential threat

Part 3: Program Review Response and Action Plan

Recommendation 1: Teaching and Curriculum

Aggressive strategic hiring is needed to replace departed tenured faculty and grow the Department. Non-tenure track faculty are needed on multiple campuses to support teaching mission, allow tenure track faculty more research time, and decrease student-faculty ratios.

- The Department is pursuing hiring aggressively: 2-3 new hires are already approved, with two searches underway (Spring 2022).
- Chair will convene an ad-hos faculty committee to revise 5-10-year strategic hiring plan in accordance with review recommendations.

Recommendation 2: Funding for Undergraduate Directed Independent Research

Put in place a strategy where faculty that train directed independent research (DIR) students get funds to help support the students' research.

- The Department now provides a $500 annual research lab allowance to each faculty in support of undergraduate research – from Lab equipment fees

Recommendation 3: Lab Fees

The current laboratory supplies fee (for consumables) be split into two fees- lab supplies and equipment fees - where 67% of the current total remains in the laboratory supplies fees and a new equipment fee is created (33% of the current total).

- Lab equipment fees were reinstated and are now in the Department's budget allowing Biological Science to investment in new equipment and repairs.

Recommendation 4: Doubling full-time lab staff

Double the number of full-time lab support staff. Much of the burden for helping prepare teaching labs is falling on graduate students serving as teaching assistants.

- The Chair will submit a proposal to the Dean to hire one additional lab staff person in Boca and address salary inequalities in this area.

Recommendation 5: Academic Advising Requirement

Undergraduate students must meet with an academic advisor before registering for courses each semester.

- The Department works closely with the College's advising team and reminds students though a quarterly newsletter to meet with their academic advisor each semester.
- Biology faculty will be asked to add an academic advising statement to their syllabi.

Recommendation 6: HSI Grant Opportunity Workshop

A workshop for the Department faculty on HSI institutions' grant opportunities is recommended.

- The Chair will contact College's Associate Dean for Research in an effort to identify resources, along with a facilitator for a workshop.

Recommendation 7: Department and its faculty to be a part of the decision-making process regarding strategic hiring

The Department and its faculty have an opportunity to be a part of the decision-making process regarding strategic hiring not only to support research but also the teaching mission.

- The Chair will strongly advocate to the Dean, Provost and VP for Research, for this inclusive practice.

Recommendation 8: Ad hoc committee to develop a new 5-10 year hiring plan based on the Department's current needs

Convene and ad hoc committee to develop a new 5-10 year hiring plan based on the Department's current needs, and where the faculty and Department leadership would like to be in 10 years.

- The Chair has already created an ad-hoc faculty committee to develop a 5-10-year plan as stated by reviewers.

Recommendation 9: Hire faculty in environmental science who focus on big data

Hire faculty, particularly in environmental science, who focus on big data, particularly if start-up funds are limited.

- Our current search has identified two excellent candidates in the area of ecology who use AI and Big Data tools.

Recommendation 10: Strengthening faculty-to-faculty mentoring

Strengthen the current faculty-to-faculty mentoring program within the Department and that mentoring be included as a metric for annual review.

- The Chair will convene a small faculty-staff working group to identify needs and potential mentors.
- Previously, 1-2 "faculty fellows" used to serve as subject-matter experts in the areas of external awards and publications. This program will be revisited.
- The Chair works closely with junior faculty to ensure that junior scholars stay on track for tenure review. Both assistant professors were promoted to associate professors last year under the current Chair's supervision.

Recommendation 11: TA / RA positions available on all campuses

Teaching and research assistantships should be available at all campuses to accommodate the students at those campuses.

- Department coordinators work closely each term to match TA/RAs with opportunities on their home campus. Unfortunately, this is not always possible due to the limited number of available positions.
- If available, TAs are assigned to online labs or in-person back-to-back sessions to reduce travel time.
- The situation with research assistants is more challenging due to recent faculty departures from the Department.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Department of Chemistry and Biochemistry

Program Review Executive Summary
September 2022

Department of Chemistry and Biochemistry
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The mission of the Department of Chemistry & Biochemistry is to provide high quality education and state-of–the–art training in research in the fields of Chemistry & Biochemistry through excellence in teaching, research and service. In teaching we will provide our students with the foundation to build a chemistry knowledge base and introduce them to the recent advances in the field. In research we will provide high-quality experiences in both fundamental and applied research. We will continue to perform basic research that may lead to the discovery of new drugs for the treatment of major diseases and developing new materials for enhancing the quality of life. We will provide service to the university through joint interdisciplinary programs in biomedical, life and environmental sciences and will provide a strong infrastructure consisting of modern and powerful investigative instrumentation. We will provide service to the region and nation by contributing scientific expertise. We will help train the high-tech workforce needed to meet the growing demands of industry in Southeast Florida in order to support and sustain economic development in the region.

The Department of Chemistry and Biochemistry is devoted to fostering an inclusive environment that embraces and celebrates diversity, race, ethnicity, culture, gender, sexual orientation and unique differences among our students and faculty. In our view, diversity encourages creativity and innovation and helps to attract and retain top talent in science.

<u>Headcount Statistics 2020-2021</u>

- Undergraduate Students: 246
- PhD students: 28
- MS students: 8
- Faculty: 20

<u>Degree Programs</u>
BS Chemistry (including option of: Honors in the major)
BA Chemistry
MS Chemistry (thesis)
MST Chemistry (non-thesis)
PhD Chemistry
Undergraduate Certificate: Pharmaceutical Technology Certificate Program

Graduate Certificate: Postbaccalaureate Research Education Program in Chemistry Certificate Program

Major Changes Since the Last Program Review

Professional Certification
- American Chemical Society (ACS) re-certificated undergraduate chemistry programs in Fall 2017

Curriculum
- An Honors in Chemistry Program (HCP) was established for outstanding undergraduate chemistry students
- A Pharmaceutical Technology Certificate Program (PTCP) was established in Fall 2020 for chemistry majors who aim to pursue a career in biopharmaceutical industry
- Postbaccalaureate Research Education Program in Chemistry (PREPChem) Certificate Program was established in Fall 2020 for recent college graduates with a bachelor's degree to further build their knowledge and research skills in preparation for graduate and/or professional school.
- BS Chemistry program with emphasis on biochemistry was revised toward greater access for the Pre-Professional student population at FAU
- The department is actively participating in FAU's Quality Enhancement Plan (QEP) program: Learning Reimagined: Expanding the Learning Assistant (LA) Model across the Curriculum to Transform Teaching through Student-Centered Collaborative Learning.

Faculty
- Hired one female tenure-track assistant professor level faculty in the field of materials chemistry to start addressing missing areas of expertise in the department
- Developed recruiting plans for targeting future faculty hires in other sub-fields of research missing in the department (toward building a critical mass of faculty with research programs)
- Developed and implemented guidelines for mentoring of tenure-track faculty members in the department http://chemistry.fau.edu/files/chem-guide-mentoring-2021.pdf

Part 2: Findings

Reviewer Identified Strengths/Opportunities

- **Faculty per capita metrics are strong** – small department relative to aspirational R1 peers, however most of the chemistry faculty have active research programs; there is a high level of collaboration and collegiality amongst faculty; there are clear guidelines for early tenure track faculty; junior faculty involved in recruiting graduate students
- **Innovations and best practices in teaching** – innovative and impactful approaches utilizing near-peer mentoring are routinely adopted in the teaching mission; these are impactful and benefit underrepresented and/or first-generation students; development and implementation of innovative virtual labs fueled by limited space resources and growing student population has freed up resources for strategic improvements in other areas of the curriculum; additionally, high quality virtual labs recorded by faculty can be used for more effective Teaching Assistant (TA) training
- **New programs** – recent important innovations: creation of Honors in Chemistry Program (HCP) (with an extensive research component), and Certificates (PREPChem and PTCP) as a way to prepare students for graduate schools
- **Innovations in undergraduate research mentoring** – chemistry faculty use research instruments in dual roles for teaching and research; more undergraduate researchers are able to learn the use of modern instrumental methods; funds are available for undergraduate research through FAU's SURF program, especially important for first-generation and transfer students to encourage engagement in research
- **Location, community appeal** – the Department can leverage location, dual career opportunities for faculty spouses, cultural/recreational amenities and high standard of living to attract prospective students and faculty; FAU is centrally located to pursue collaborations with regional partners and research institutes

Reviewer Identified Weaknesses/Threats

- **Graduate stipends and TA workload** – published graduate stipend (i.e., the amount guaranteed to students in their offer letters) is a major liability for the program; this is exacerbated for MS students since even the strong researchers amongst them cannot easily switch to the PhD program; current stipends are not competitive and force students to supplement their income from external job; low stipends hamper recruitment of qualified applicants
- **Graduate program structure, morale, and recruiting** – graduate students feel that the program is not clear about expectations to progress in their degree, much ambiguity and misinformation was observed amongst the graduate students; graduate recruiting especially domestically can be improved
- **Faculty size and diversity** – faculty size has not increased in 20 years, while the student population served by the Chemistry Department has doubled; FAU is a minority serving

institution (MSI) and Hispanic serving institution (HSI), however the department has not been able to recruit minority faculty

- **Undergraduate population growth and teaching needs are growing faster than resources** – chemistry curriculum is important for the increasing undergraduate student population from a variety of STEM majors this creates acute pressure at the department level and a need for more resources to expand the teaching mission
- **Lack of Departmental authority/agency in resource accrual and management** – there appears to be a lack of clarity on how to cover expenses associated with research; there is no bridge funding for faculty who have been productive but may be going through a dry spell
- **Visibility** – lack of visibility for both undergraduate and graduate recruiting; the high visibility of Honors College (at Jupiter campus) may be impacting the Chemistry Honors Program in the major (at Boca campus)
- **Distribution of faculty and programs across multiple campuses** – faculty across multiple sites and the Department's ability to align strategically with Pillars collectively create a risk of diluted identity with the department
- **Post-doctoral scholar** – there is a lack of support for post-doctoral scholars
- **Faculty compensations and recruitment** – starting salaries and start-up packages for new faculty are not competitive with other institutions in the area and problematic for recruiting nationally given the high cost of living in South Florida

Part 3: Program Review Response and Action Plan

A. Recommendation: Graduate Programs

Develop and apply a clear structure to the graduate program to reduce time to degree.

- The Department will increase oversight and adherence to the "Policies and Procedures" (P&P) document it already has for each of its graduate degrees.
- Mandatory annual meeting between each graduate student and Department Graduate Committee (DGC) will be implemented at the start of fall semester.
- Graduate students will be required to submit written recommendation from their thesis committee and an updated milestone chart for review by DGC.
- DGC will evaluate progress to degree and when appropriate initiate: academic progression plan (APP) and student dismissal from program for APP non-compliance.
- The DGC will review the P&P document making appropriate changes in fall 2022.

1. Most incoming graduate students should join a research group by the end of their first semester, and all must join a research group, assemble their full committee, and meet with their committee to discuss plans by the end of their second semester.

- Relevant P&P document policies will be revised to require that the first supervisory committee meeting be held before the end of the student's second year. This is a more realistic timeline that allows students more time to explore and identify the best fit with respect to their doctoral PI and research project.

2. All graduate students must complete all required coursework and candidacy requirements, and meet again with their committee to discuss research progress and plans by the end of their second year. PhD students who fail to do so can be redirected to the appropriate MS track for graduation within the following semester.

- A new policy will be added to the PhD P&P document that "All graduate students must complete all required coursework and candidacy requirements, and meet again with their committee to discuss research progress and plans by the end of their third year". Given that not all graduate courses are offered every year and many students require some remedial study this is a more feasible/realistic time frame.

3. The Graduate Studies Committee should require yearly committee meetings.

- A statement to this effect will be added to the P&P documents (PhD and MS) and enforced by the DGC.

4. All PhD students must present their research data by the end of their 4th year. This presentation could take the form of an external and/or internal research seminar but must include a meeting with the PhD committee. Students shall outline a plan for completion of

their research, dissertation, and defense at their 4th year committee meeting, with an expectation of graduation in year 5.

- A statement to this effect will be added to the PhD P&P document and enforced by the DGC.

5. Students must meet each and every milestone on schedule in order to remain in good standing in the program. Students who are not in good standing are put on probation and, if needed, guided to alternative degree paths (e.g., from PhD to MS, or from thesis MS to coursework MS) for completion after no more than one additional semester, thereafter not being eligible for GTA support.

- Per A. above, annual meeting with each student and a review of their milestone chart will be conducted by DGC. The Department currently does not have a non-thesis MS (except MST) but will seek approval for it in fall 2022.

6. The Graduate Studies Committee, in cooperation with the Department and administrative support team, must track the progress of all graduate students independent of the individual committees to ensure that students stay on track.

- See response A. above.

7. The graduate students' individual committees are primarily responsible for guiding the research and professional development of the student.

- The Department agrees and will implement this recommendation.

8. All M.S. students should graduate with 2-3 years, depending on the track. Those who wish to stay and continue their research beyond three years should transition automatically into the PhD track (i.e., without having to complete the M.S. degree and reapplying to the Ph.D. program). This could be done following a recommendation by the students' graduate committee and final approval of the Department faculty.

- The Department will recommend to the Graduate College that a transition be made possible between PhD and MS degree tracks without having to reapply.

B. Recommendation: Graduate Teaching Assistants

Improve GTA workload expectations and stipends (by any means necessary). Graduate stipends must be increased immediately. Considering the high local cost of living, the suggested NIH pre-doctoral trainee stipend of $25,836 might be a reasonable target.

- In spring 2022 the Department Chair re-evaluated and developed a new and equitable GTA assignment system that will be implemented in fall 2022.
- The Department will recommend to the Deans of the College of Science and the Graduate College that the GTA stipend be increased and held to the NIH standard. We will also recommend that the MS stipends be increased.

C. Recommendation: Strategic Faculty Hiring

Develop and apply a clear research vision and faculty hiring plan aligned with Pillars. The Chemistry Department should develop a long-term research vision and hiring plan built at the intersection of the foundational disciplinary core areas, representational diversity, ACS certification requirements, and the FAU Pillars.

- The Department has adopted four major considerations for developing its research vision and faculty hiring plan (not necessarily in order of priority):
  i. Meet the needs for ACS accreditation.
  ii. Meet the needs of FAU students by providing high quality classroom instruction, research opportunities and guidance.
  iii. Contribute to FAU's strategic plan by conducting research relevant to the FAU Pillars.
  iv. Maximize the diversity of our faculty.
- In spring 2022 the Department co-hired with the Stiles Nicholson Brain Institute (SNBI).
- Currently the Department is in advanced stages of hiring an environmental chemist, a co-hire with HBOI and I-SENSE (jointly).
- Collectively these faculty hires will meet two of the five needs identified in the Department's self-study faculty hiring plan.
- In fall 2022 the Department aims to hire a female faculty, specialist analytical chemist, whose research aligns with I-Sense and I-Health Pillars.
- Next hires will be: inorganic chemistry - the Department lacks this expertise, which could jeopardize ACS certification next year; molecular pharmacology position - likely a co-hire with I-Health; general chemistry instructor - needed due to rapidly growing numbers of students taking general chemistry, other intro courses.
- The Department will start faculty searches earlier, move more quickly through the interview process, aggressively court the desired candidate(s), and leverage the appeal of the diverse South Florida community.

D. Recommendation: Apply for NSF MRI grant to purchase HRMS

The Department should be able to submit a competitive NSF MRI proposal for a high-resolution mass spectrometer (HRMS) instrument.

- The department is identifying the lead PI and faculty team for this project.
- The department is targeting the next NSF funding cycle for submission of proposal.

E. Recommendation: Faculty Diversity

Prioritize open-area tenure-track faculty searches aimed at addressing gaps in faculty representational diversity and expertise.

- The Department will follow FAU's (College of Science and Provost Office) guidelines and best practices for optimizing the diversity of applicant pool for all faculty searches.
- The General Chemistry instructor hire will be conducted as an open-area search.

- After that an open-area tenure-track faculty search will be initiated.

F. Recommendation: Time to degree in MS and PhD programs

Reduce time-to-degree in MS and PhD programs (by any means necessary), and provide pathways for students seamlessly transitioning between PhD, MS (thesis and non-thesis) degrees depending on progress to degree, research aptitude and productivity.

- The Department addresses reducing time to degree and seamless transition between PhD and MS programs as part of Recommendation A. above.
- The Department currently does not have a non-thesis MS degree (other than the M.S.T.) but will seek approval for one in fall 2022.
- The Department will seek the approval of a new five-year BS/MS program in fall 2022.

G. Recommendation: Strategic tenure-track faculty (TTF) hiring

Hire TTF to advance research and align with Pillars, and hire instructors to address teaching needs not covered by TTF.

- The Department agrees and will follow these recommendations.

H. Recommendation: Engage South Florida community for fund raising

The economic vitality and wealth in the South Florida community could present opportunities for community engagement and investment in the growth of the FAU chemistry research and innovation. The Department could improve graduate students recruiting by sending faculty to engage with interested undergraduate researchers from other schools during national or regional conferences.

- The Department Chair has assembled a "Recruiting and Outreach" committee tasked with seeking funds, developing new promotional materials, and identifying recruiting opportunities for graduate and undergraduate degree programs.
- The committee will also work with the College of Science Directors of Development and Communications to seek new fund raising and promotional opportunities.

I. Recommendation: Other issues raised by reviewers

a. External dissertation committee member must be completely independent from the committee chair/PI

- It may not always be practical to adhere to such a strict policy.
- The Department has introduced a thesis advisor/committee approval form that must be completed by the student and approved by the graduate committee. This additional oversight will provide impartiality to avoid problems in future.

b. Visibility – For the graduate program, national visibility can be increased by improving the seminar series to include invited researchers from aspirational institutions.

- The Department will invite 2-3 external speakers each semester to deliver a seminar remotely while providing each speaker with a small stipend.

- One high-profile researcher will be invited each year.

c. Post-doctoral scholars – There is a lack of support for post-doctoral scholars.

- The Department will recommend to the College Dean and the VP for Research the introduction of a post-doctoral scholar support scheme that supplements the grant funds available to faculty with smaller grants, or faculty seeking to generate preliminary data for future large grant proposals.

d. Professional development – create a grant club where more senior faculty would read junior faculty grants prior to submission to funding agencies

- The Department agrees and will expand its pre-existing grant mentoring scheme.

e. Distribution of faculty and programs across six campuses – more connectedness rather than competition should be nurtured

- Two junior faculty on the Jupiter campus are mentored by senior faculty at that campus, they are also members of the DGC to ensure inclusivity and allow them to be competitive for recruiting graduate students.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Environmental Science Program

Program Review Executive Summary
September 2022

Environmental Science Program
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The Environmental Science (ES) Program at Florida Atlantic University is a university-wide interdisciplinary program administered by the Charles E. Schmidt College of Science (COS). A standing Program Committee composed of faculty representing colleges and units across the university is responsible for the academic oversight of the ES Program. Courses in the ES Program curriculum are taught by faculty from multiple departments in every college of the university. Undergraduate ES students earn the Environmental Science Certificate in conjunction with a baccalaureate degree from any accredited US degree-granting institution. Graduate students earn the Master of Science in Environmental Science degree under the supervision of ES Graduate Faculty appointed in a wide range of departments. The ES Program also administers a graduate certificate in Environmental Restoration, and the Environmental Science concentration of the Integrative Biology PhD degree.

The mission of the Environmental Science Program at Florida Atlantic University is to educate and support students who are motivated to reach the highest level of professional achievement in environmental science, and to facilitate the pursuit of excellence in research, scholarship, creative activity, teaching and community engagement for faculty and students.

The environmental science program believes diversity, equity and inclusion are driving forces and indicators of excellence and innovation in environmental science. The mission of the Environmental Science Program includes supporting and promoting diversity, equity and inclusion among students, faculty and staff. The ES Program aspires to create a diverse workforce of environmental scientists and educators dedicated to promoting high quality, equitable and inclusive scientific communities working together to solve environmental problems.

The undergraduate program promotes a broad, integrated understanding of the interdependencies of humans and their environment and prepares students for diverse career paths related to environmental science. At the graduate level, the ES Program fosters leadership and provides students with in-depth knowledge and training in the natural and social sciences, preparing them to develop and implement solutions to complex environmental problems.

<u>Headcount Statistics 2020-2021</u>

- MS students: 21
- Faculty: 2 full time faculty (Program Director and Coordinator), 55 affiliate faculty

Degree Programs

MS Environmental Science
BS Biology/MS Environmental Science fast-track combo program
Certificate in Environmental Science
Graduate Certificate in Environmental Restoration
PhD Integrative Biology - Environmental Science concentration

Major Changes Since the Last Program Review

- A proposal was developed and submitted to the Dean and Provost for university-wide restructuring of governance and funding for environmental scholarship and research (e.g. School for the Environment); at this stage this proposal was not approved to move forward
- A semi-annual ES Retreat was established in Fall 2015, and is held at alternating campuses; most recent retreat was held in Spring 2021 and facilitated bringing together all ES faculty and students, with distinguished guest speakers
- Since Fall 2015, the Program implements an orientation session for new students in the fall and spring semesters
- Curriculum restructuring occurred in Fall 2015, and curriculum is reviewed periodically; Program Director works with Chairs to maintain ES course offerings; the curriculum for the accelerated BS/MS in Environmental Science was revised to meet SACS accreditation requirements
- In Fall 2015, a downloadable document was created on the ES website and is updated periodically; this document contains all of the program information currently found on the ES Canvas site
- Since Fall 2015, current profiles of all ES faculty and graduate students are provided (and updated regularly) on the ES website
- Since Spring 2016, an ES colloquium is offered on alternating semesters with Research Fundamentals course
- Since Spring 2016, an ad-hoc ES faculty committee periodically reviews the terms and conditions of teaching assistantships (TAs) for workload equity across campuses
- In Fall 2019, procedures for timely identification of ES Certificate students were improved
- Since last review, the Program has actively promoted increased faculty and student participation in Undergraduate Research and Inquiry in environmental science
- In Fall 2017, the need and feasibility of a stand-alone certificate in ES was evaluated; such a certificate would require a bachelor's from an accredited US institution
- In 2018, a feasibility study was conducted, a student survey implemented, and curriculum proposal developed for a BS degree in Environmental Science; at this stage this proposal was not approved to move forward for faculty governance approvals
- Since Fall 2015, the Program faculty and Director are working with the Office of Institutional Advancement to raise visibility of environmental research and scholarship and enhance fund-raising

Part 2: Findings

Reviewer Identified Strengths

- **Self-recognition of Program Relevance** – students, staff, faculty, and administrators alike expressed that "the Environment" was an area of critical relevance to FAU; in 2015, FAU established the environment as one of its core institutional pillars; with strategic planning and actions by administrators and faculty, the future holds great promise for the ES Program to capitalize further on this strength
- **Faculty Interest and Research Expertise** – the commitment and passion with which FAU faculty pursue environmental research is impressive; ES Program attracts MS students working at the interface of multiple disciplines, which helps advance interdisciplinary faculty research; there are several productive faculty who have been awarded competitive funding to address environmental science questions, this bodes well for garnering funding to create student cohort experiences and other programmatic advances, in addition to scientific environmental research
- **Graduate Student Community** – the sense of community among graduate students was strong and positive; students overall expressed satisfaction with the program

Reviewer Identified Challenges/Threats

- **Physical Challenges** – the ES Program runs across three locations that are fairly distant from one another: Boca Raton, Davie and HBOI; this distribution makes it challenging to create and support a sense of community for both faculty and students; ES Program does not currently have a physical home on any FAU campus
- **Personnel Challenges** – there has been a substantial loss of faculty from the ES Program, which creates a challenge to offer core courses for the students; there needs to be a strategic planning/schedule of hiring faculty in collaboration with participating departments; recent departures of faculty and administrators to other institutions put ES Program in a vulnerable position until those seats are filled; HBOI research faculty are not affiliated with COS – there is a need for a faculty governance entity for HBOI so that their faculty can be fully integrated in the ES Program
- **Curriculum Challenges** – recent faculty departures have resulted in many of the courses identified on the program's website not being offered with any degree of regularity; the ES MS program is not well coordinated with MS program in Marine Science and Oceanography (MSO); many courses offered by the departments (Biology, Geoscience, Urban and Regional Planning) participating in the ES Program may need an update; there seems to be limited input by the ES Program on course offerings, as courses are largely offered by each different department participating in the program; there is a sense of a turf war between departments participating in the ES Program
- **Fiscal Challenges** – other than Graduate Teaching Assistant (GTA) positions, few institutional incentives seem to exist for faculty to participate in the ES Program for both undergraduate certificate and MS ES; the GTA stipend is low relative to the cost of living in coastal south-

central Florida; health insurance covers only up to 80 percent of the cost; this puts FAU at a competitive disadvantage related to peer institutions in attracting high quality students
- **Institutional Structural Challenges** – the definition or affiliation of the ES program relative to the University Pillar in the Environment is unclear and in large part unrealized; better alignment of the ES Program to the University Pillar in the Environment could greatly assist the University aspiration of being classified as Carnegie Research 1 (R1); HBOI's status representing the Environment Pillar has created an imbalance of funding across the campuses at FAU, affecting faculty morale in the ES Program; while Environment is one of the FAU institutional research Pillars, a PhD program in Environmental Science does not exist to fuel the drive for R1 status

Part 3: Program Review Response and Action Plan

Curriculum Enhancement (CE)

CE Recommendation 1: Consider establishment of a Ph.D. program in ES

Such a program would not only help FAU achieve R1 status through an environmental lens but would also help to bring together the research and academic priorities of the institution.

- The ES Program leadership will establish a faculty sub-committee to evaluate the need and feasibility of offering a Ph.D. in Environmental Science.
- The ES Program will concentrate on Graduate Degree Programs as a priority moving forward.

CE Recommendation 2: Consider establishment of an online non-thesis program in ES

Developing a quality online program is among the highest priority findings of the review committee.

- The ES Program leadership will evaluate the need and feasibility of establishing an online non-thesis MS ES.
- A focus group with students and faculty will be formed to initiate discussions and planning for a quality online MS ES.
- A request will be submitted to the Dean to incentivize participation in the new online MS ES of faculty through stipends, if this program is developed and implemented.

CE Recommendation 3: Curriculum review and enhancement

Update curriculum, and encourage team-teaching of classes relevant to the environment.

- The ES Program curriculum committee will assess current offerings, needs and gaps and make recommendations to ES Program committee and Director.

CE Recommendation 4: Incentivize departmental participation with ES Program

Encourage the Dean of COS to establish metrics to evaluate the interdisciplinary contributions made by departmental faculty to the ES program, and reward department heads accordingly when a high level of involvement is made.

- A first step toward fulfilling this recommendation is to cross-list departmental courses contributing to the ES Program graduate and undergraduate degree/certificate programs.

CE Recommendation 5: Undergraduate ES certificate

The ES Program should leverage the MS program first, and then the gains from the growth can be invested into improving the undergraduate certificate program, if desired.

- The ES Program will concentrate on Graduate Degree Programs as a priority moving forward.

- The procedures for timely identification of ES Certificate students will continue to be improved.
- Any further planning for curricular redevelopment of ES Certificate or development of a stand-alone certificate will be paused.

CE Recommendation 6: BS Environmental Science

Reinitiate discussions within the COS about establishing a BS ES while focusing on graduate programming.

- The ES Program leadership will re-initiate discussions about the BS ES with the new Dean of COS.

Program Growth (PG)

PG Recommendation 1: Overcome geographical challenges

The Environmental Science (ES) Program runs across three locations that are fairly distant from one another: Boca Raton, Davie and HBOI. This distribution makes it challenging to create and support a sense of community for both faculty and students.

- The ES Program leadership will continue to facilitate a sense of connectedness through inter-unit communications, research and teaching collaborations through in-person and virtual events and initiatives. The interdisciplinary units include Departments, Colleges, Institutes, Pillars, and Campuses.
- The ES Program supports ongoing efforts of increasing course offerings broadcast to all campuses, seminar series opportunities, and the location of annual ES Program meetings and retreats.
- The ES Program can be thought of as a "Network of Environmental Science" expertise, courses, and research.

PG Recommendation 2: Enhance partnership and coordination between ES, COS, and HBOI

The majority of HBOI research faculty are not affiliated with COS (rather do not have an academic home). There needs to be a faculty governance entity for HBOI faculty to become fully integrated in the ES program.

- The ES Program has made significant efforts to increase participation of HBOI faculty over the past 1-2yrs.
- Outreach by the Interim Director has resulted in 12 HBOI faculty becoming affiliated with ES.
- The ES Interim Director and the HBOI Director closely coordinate on academic and research activities, and share the goal of strengthening and growing the positive relationship that exists between the ES Program and HBOI.

PG Recommendation 3: Develop a partnership with Honors College

Develop a partnership with Honors College or other undergraduate units at FAU to promote BS/MS and MS program.

- The ES Program leadership will evaluate the need and feasibility with Honors College administration.

PG Recommendation 4: Recruit faculty and expertise from the entire university

Actively recruit faculty and expertise from the entire university, not just the participating departments under COS to contribute to the growth and the expansion of the ES program.

- ES Program's faculty are hired and homed in various departments and institutes as their primary assignment and not by or in the ES Program.
- Participation in the ES Program is voluntary and at the discretion of the faculty member.
- The ES Program Director will continue to work closely with the faculty, Department Chairs from across FAU, the Dean of COS, and the Pillar Directors to encourage participation and support for the ES Program

PG Recommendation 5: Positive changes to program culture

Recent departures of faculty and administrators to other institutions puts the ES program in a fairly vulnerable position until those seats are filled. The ES Program coordinator is also retiring at the end of this academic year. Taken together, this turnover has created a lack of program stability. However, it also creates a new opportunity to make significant and positive changes to program culture once these positions are filled.

- The ES Program does not have faculty lines, but communicates and partners with Department Chairs and Pillar Directors concerning ES Program needs and synergies across programs to encourage strategic faculty hires in wetland, estuarine and coastal systems and the interface of these systems with the urban environment.
- COS is in the process of hiring three new assistant professors in the college that will participate in the ES Program from their home department.
- The ES Program will transition to a permanent director, and will continue hiring discussions with the new Dean of COS.

PG Recommendation 6: Explore the idea of establishing an industry/agency co-op with the university

This may offer opportunities for student funding through internships and research assistantships. Paid membership in the co-op could also help to fund ES initiatives. Models for establishing co-op programs exist at many campuses, and engineering co-ops may offer ideas for the FAU ES Program to pursue.

- The ES Program leadership will establish a faculty sub-committee to evaluate the need and feasibility of establishing an industry/agency co-op with the ES Program.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Department of Exercise Science and Health Promotion

Program Review Executive Summary
September 2022

Department of Exercise Science and Health Promotion
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The Department of Exercise Science & Health Promotion (ESHP) is headquartered on the Boca Campus and offers interdisciplinary undergraduate and graduate degrees in exercise science and health promotion. The ESHP programs are designed to prepare students for careers in clinical, corporate, and community/non-profit based physical fitness and health promotion, postgraduate study in applied health sciences (e.g., physical therapy, occupational therapy, and chiropractic medicine) as well as advanced study in human biology/physiology. Ultimately, whether in the role of practitioner or scientist, the ESHP graduate is uniquely prepared to impact the health and well-being of their fellow citizens. Notably, the impact of ESHP graduates includes the potential to reduce health care costs when those they touch adopt a healthy lifestyle and dramatically reduce the occurrence and severity of diseases (obesity, heart disease, hypertension, diabetes, cancer) associated with sedentary living.

Headcount Statistics 2020-2021

- Undergraduate Students: 818
- MS students: 51
- Faculty: 13

Degree Programs

BS Exercise Science and Health Promotion (ESHP)
BSE Exercise Science and Health Promotion (terminated and on teach-out plan)
MS Exercise Science and Health Promotion
BS ESHP/MS fast-track combo program
BA Health Science (not under review this year)
BA HS/MS fast-track combo program

Major Changes Since the Last Program Review

Relocation of the Department of Exercise Science and Health Promotion (ESHP)
-Effective July 1st, 2019 the Department of ESHP relocated from the College of Education (COE) to the College of Science (COS)

Curriculum
- The BA Health Science (HS) program was officially moved to the Department in Fall 2019 (this degree program was not reviewed in the 2021-2022 Academic Program Review)
- Added accelerated BA HS to MS and BS ESHP to MS combo degree options in Fall 2021
- In process of implementing Pre-Physical Therapy/Occupational Therapy (PT/OT) track into the BS ESHP degree
- Condensed MS tracks from three: Exercise Physiology, Health Promotion, and Strength and Conditioning, into two: Exercise Physiology and Health Promotion
- Re-designed and obtained high quality distinction for many undergraduate and graduate courses through e-learning
- A ESHP faculty member is now an approved Ph.D. advisor in the Integrative Biology program and is mentoring his first Integrative Biology Ph.D. student
- Eliminated a laboratory course (Exercise Testing Lab) as recommended by previous reviewers, and instituting various course name changes
- Added a new course in BS ESHP degree program: Exercise Physiology 2 to increase the scientific quality of the program

Faculty and Staff
- The Departmental lab manager position was converted to a full-time Biochemistry Scientist and manager with PhD
- NIH funded neuroscientist was faculty hired in collaboration with I-Brain
- ESHP faculty overloads were cut in the COS

Research and Partnerships
- ESHP Department is now working with collaborators from Memorial Healthcare system (on exercise intervention work to improve the quality of life and tolerance of treatment in cancer patients) resulting in submission of the first proposal for extramural funding
- Quality of publications for ESHP faculty increased significantly (per impact factor (IF) for publications)
- Research expectations from ESHP faculty increased (due to move to COS)

Part 2: Findings

Reviewer Identified Strengths

- **Strong enrollment** – in the BS ESHP degree program
- **Positive undergraduate student feedback** – the BS ESHP majors valued engagement with faculty and in-person experiences
- **Positive graduate student feedback** – MS ESHP students felt they were being well prepared for potential doctoral studies, and faculty are supportive
- **PhD student in the Integrative Biology PhD Program at FAU** – with more students to follow in ESHP
- **Faculty are a strength** – ESHP faculty are highly collegial and dedicated to Chair and FAU
- **New space** – the Department has been successful in acquiring new spaces on the campus

Reviewer Identified Challenges and Opportunities

- **Undergraduate curriculum is overly complex** – with electives and required courses that are not necessary and duplicative; the undergraduate program needs to be streamlined significantly to free up faculty time for research
- **Undergraduate student advising issues** – students feel frustrated at times about lack of information on necessary electives to take for PT/OT school admission
- **Undergraduate student online course issues** – students expressed that some online courses were designed with limited resources
- **Health Promotion component of the BS ESHP is under-enrolled with course offering issues** – the health promotion component of the Undergraduate program is not well enrolled, and the program faculty may not be able to teach all courses at undergraduate level for students to be Certified Health Education Specialist (CHES) credentialed; reviewers recommend considering shifting faculty resources in this area to graduate level (which still can lead to CHES credentialing for students)
- **Small numbers of faculty in the Health Promotion area** – the Department may need more faculty in this area in future as the program grows
- **Large concentration of graduate students is working under one PI in the Department** – graduate students to be shared across groups in the Department
- **Large movement of the Department towards online education** – there is concern about online quality and ability to effectively teach courses such as exercise physiology as effectively in the online environment; the Department needs to consider student feedback on their enjoyment of F2F experiences
- **Small number of faculty driving the vast majority of the research enterprise in the department** – there may be a lack of mentoring for junior faculty; there may be a lack of funding for faculty and graduate students to present at national and international conferences
- **Poor condition of Department's new space** – the Department's space needs upgrading and repair
- **Facilities and start-up packages** – these need to be improved

- **Schmidt Family Complex for Academic and Athletic Excellence space** – the Department has the opportunity to explore new space; this space would attract leading scientists in the discipline to FAU
- **The Department lacks a vision or mission statement or Strategic plan** – needed for decision prioritizing; the opportunity will then be to better align with pillars or medical school to increase research
- **Opportunities on the FAU campus to expand faculty engagement in research and development** – create core lab facilities to generate revenue; engage in the NSF I-Corp program at FAU

Part 3: Program Review Response and Action Plan

Recommendation 1: Strategic Plan

Develop a vision, mission statement and Departmental Strategic Plan. This document should then be used to guide decisions about resource and faculty time allocation. The strategic plan will indicate the future directions of the Department for education and research.

- The Department Chair will draft a strategic plan with faculty input to reaffirm the Department's vision and explore strategies to reduce the teaching burden for the Department's program and internship coordinators.
- The Strategic Plan will be in place by November 2023.
- The Department will use the strategic plan to inform its faculty hiring plan.

Recommendation 2: Faculty Hires

If the Department will prioritize enhanced research activity (extramural funding in particular), then the faculty will need to grow in size to accommodate hires that have more time allocated to scholarly research.

- The Department will develop a strategic plan (per recommendation 1 above), and develop a hiring plan that aligns with the strategic plan.
- Currently, the Department will work to explore the conversion of a visiting instructor line funded by the Centre for Online and Continuing Education (COCE) into a permanent position.

Recommendation 3: Complete Course eDesigns

Students expressed some concerns about OL classes having the bare minimum of materials (no voiceover or video lectures).

- The Department will complete the creation of high-quality online versions of all their graduate and undergraduate courses, working with COCE.
- Completion of the high-quality standard for all courses by 2025.

Recommendation 4: Mentoring Program

Develop a formal faculty mentoring program for faculty and Chair.

- A committee will be formed to create a program for junior faculty prior to next round of hiring (by August 2023).
- The Department will connect with either pillar directors or other department chairs to establish partnerships for mentoring.

Recommendation 5: Program Marketing and Website Update

Advertising of online programs is best done through online means and will have associated costs. Update the information regarding faculty publications, laboratory equipment, and ongoing studies. Improve the organization and design of your website.

- The Department will continue to use online podcasts for student recruitment.

- The Department will develop a formal marketing plan and request funds from COS for this purpose.
- The Department website will continue to be regularly updated, working with the COS Communication Director.

Recommendation 6: Reduce 6-7 Courses from BS program to increase efficiency of delivery

- The Department disagrees with this recommendation. ESHP electives are widely popular throughout the ESHP and HS programs, and the university as a whole. Removing them would decrease FTE and interest in their respective subject areas.
- Other courses mentioned are crucial to understanding the content necessary for success in the field and building a strong foundation for graduate work, which bolsters post-graduation continuing education rates. These courses also aid ESHP students in preparation for internships in the discipline.

Recommendation 7: Revise Master's Curriculum

Find an existing course elsewhere on the campus for students to take research methods. Revise elective lists for concentrations to include courses that are most aligned to student interests.

- This recommendation has been completed just prior to the program review site visit.

Recommendation 8: Greater Study and Evaluation (formal) needs to be undertaken ahead of further developments in online programs/courses.

Study target market; Survey potential and current students; Both at the Undergraduate and Graduate levels; Dept needs to ensure that core courses are taught in the manner (F2F, OL) that is more pedagogically appropriate.

- This recommendation has already been met prior to the review. These programmatic decisions align with the formal student modality survey recently conducted.
- This survey found that students prefer online, asynchronous courses, with the second choice being online synchronous. ESHP faculty have observed the preference for online courses as well. ESHP curriculum changes and new programs align with this formal analysis.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Department of Geosciences

Program Review Executive Summary
September 2022

Department of Geosciences
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The Department of Geosciences provides students with a high-quality scientific education and mentors them in professional practices and research centered on Earth Systems Science, Human-Environmental Interactions, and Geospatial Information Sciences. The Department aims for excellence in teaching, research and creative activity, and strives to service the university, local, regional, national, and global communities through its research, degree programs, certificates, course offerings, professional training, mentoring, outreach, and creativity.

Headcount Statistics 2020-2021

- Undergraduate Students: 91
- MS students: 35
- PhD students: 37
- Faculty: 13

Degree Programs

BS Geosciences (including option of: Honors in the major)
BA Geosciences
MS Geosciences
PhD Geosciences
Geographic Information Systems Certificate
Advanced Geographic Information Systems Certificate
Graduate Geographic Information Systems Certificate
Graduate Remote Sensing Certificate

Major Changes Since the Last Program Review

New Strategic Plan

- A new department strategic plan was developed and approved during 2019-2020

Marketing/Department Visibility

- Enormous efforts were devoted to market Geoscience programs and recruit majors, with the support of a 3-year NSF funded GEOPATHS; project started in Fall 2019
- Department website was significantly improved with updated information, videos, career path documents, alumni highlights and testimonials
- The department deployed multiple mobile kiosks, improved banners, and an augmented reality sandbox, to modernize our program marketing

Curriculum

- Developed an interdisciplinary MS Geosciences by merging the MA Geography and the MS Geology degrees; the new program started in Fall 2016
- Developed an interdisciplinary BA/BS in Geosciences by merging the BA/BS Geography and BA/BS Geology; new programs started in Fall 2018
- The Department launched a series of online programs/certificates: BA Geosciences Geography focus, BS Geosciences Geography focus, MS in Geoscience with a focus in Geographic Information Systems (GIS), GIS Certificate (undergraduate), Advanced GIS Certificate, Graduate GIS Certificate, Graduate Remote Sensing Certificate, Minor in Geography, and Minor in GIS.
- Created a new Climate Change focus in BA/BS in Geosciences
- A focus area of Environmental Geosciences was approved at the department level; for further action at a future date
- The Department has established a formal FAU-PBSC Transfer Articulation Agreement, with Flight Plans clearly laid out
- A single committee has been created for undergraduate programs, MS programs, and PhD program respectively
- More Geoscience classes were moved online
- The accelerated combo BS/MS program Geography Focus has been approved and is ready to launch

Part 2: Findings

Reviewer Identified Strengths

- **Research** – the Department has a high research productivity and interdisciplinary collaboration, given its small size
- **Collegiality** – the Department and faculty were noted for their collegiality
- **Location** – the geographic location with proximity to marine and sub-tropical environments is advantageous for research
- **Teaching** – the Geoscience faculty are known for high quality, commitment, and excellence in teaching
- **Curriculum** – the curriculum is diverse in offerings, relevant and growing (due to the expansion of high-quality online offerings)

Reviewer Identified Challenges

- **External Challenges** – high cost of living in Palm Beach County; impacts of the COVID pandemic

Administrative Challenges

- **Environmental Science BS (ESBS)** – the possible creation of ESBS program carries serious concerns from Geoscience faculty due to worries of the BA/BS Geoscience programs being impacted negatively; fear of not being given appropriate credit for contribution to the degree
- **Geosciences majors** – number of majors for faculty was a concern, the reviewers did not find the number of Geosciences BA/BS majors overall to be a concern. Rather, their programs appear to be operating well
- **Faculty losses and replacements** – the loss of key faculty positions coupled with predicted future losses of senior faculty due to retirement, raised concerns about being able to offer the full range of courses for their majors and limits the opportunities for collaborative, funded research in environmental sciences
- **Harbor Branch Oceanographic Institute (HBOI)** – there was a lack of awareness amongst graduate students about opportunities at HBOI
- **Center for Environmental Studies (CES)** – the CES director is a tenured faculty member in the department; however, it appears that CES is not aligned with the Department, and that most of the center's external funding was with another department (Urban and Regional Planning)
- **Urban and Regional Planning (URP)** – there are active collaborations with URP in Geosciences, these should be strengthened

Research Challenges

– **Pillars** – there appear to be challenges of hiring with FAU's Pillars and a perception that the Pillars control the hiring process and allocation of start-up funds; Ocean Science and Engineering/ Environmental Sciences pillar, does not neatly align with the department's current research agenda; however, there are excellent opportunities for Geosciences to pursue in regards to the Harbor Branch Oceanographic Institute (HBOI)

Curricular Challenges

- **Additions needed** – there is a lack of field experiences and courses in the curriculum
- **CIP considerations** – there may be a CIP change opportunity for the Department toward CIP code (30.4401) called, "Geography and Environmental Studies"
- **Communication** – lack of communication between the faculty and College advisers was described as a common concern by the students
- **Career Information** – some students expressed a need for more Geosciences career opportunity information
- **Connectedness** – some students stated that they did not feel connected to the department
- **Internships** – there is a perceived lack of internships, particularly in geology; Geography and Geospatial sub-disciplines were described as having limited internships, or not well-publicized
- **Email** – students expressed feeling overwhelmed by sheer number of emails
- **Course schedule/catalog** – students expressed frustration at navigating course schedule/catalog, and lack of timely updates of upcoming course offerings
- **Graduate College's plan of study form and system** – students were frustrated and described the process as overly bureaucratic, slow, and ineffective
- **Academic Advising** – students mentioned College advisers were not fully cognizant of the differences among geography, geology, and geospatial program tracks; faculty expressed concern that students were being pushed towards the BA instead of the BS degree, perhaps as a response to pressures generated by a concern with metrics on retention and graduation rates
- **Lack of face-to-face (f2f) and other course options** – students expressed need for: more f2f courses especially fieldwork earlier in the curriculum, geospatial laboratory courses in-person, geospatial courses for graduates only, more summer school options for undergraduates, greater course diversity in geology (e.g. tectonics and 'hard-rock' geology), and more human geography courses and modern environmental problems
- **eLearning course issues** – expressed by students were: the instructor of record and the professor on the video lectures were not the same individual, direct availability of instructors through email, poor quality of closed captioning
- **computers and software issues** – students expressed frustrations that Citrix and remote desktop systems are exceptionally slow; some buy their own student ESRI/ArcGIS licenses and computers to conduct their research

Part 3: Program Review Response and Action Plan

Recommendation 1: Communication

Create a living document that lists the course rotation semester by semester for the next three or four years could be made available.

- The course rotation information has already been available to students for at least the next two years.
- The Department will generate a simplified version of the course rotation document and post on the Departmental website for easy access by students.

Consider strategies other than email for notifying students about internship and undergraduate research opportunities.

- The Department agrees and will enhance communications by: (1) using social media e.g. Instagram, Facebook, and Twitter; (2) continuing to improve the Department website, including information on job and career development resources, job and intern opportunities, research/fellowship opportunities, etc. (3) including advising information on the website, e.g. plans of study, flight plans; (4) creating a hard copy "paper binder" of job/intern opportunities in the hallway or a digital equivalent displayed in our mobile kiosks; (5) celebrating and announcing more student/faculty accomplishments on website and social media; (6) starting to make more short videos.

Recommendation 2: eLearning

Review the eLearning courses and prioritize a list of courses to be updated. Efforts should be made to modernize the eLearning courses as much as possible.

- The Department agrees and there are plans to work through the Center of Online and Continuing Education (COCE) to revise and update all courses in the curriculum.

Set in place guidelines for instructor participation and engagement in online courses. A department online learning best practices document will clarify the expectations of what eLearning instructors are responsible for and how much engagement they should have in the course.

- The Department Undergraduate Program Committee will explore the options of developing guidelines for instructor participation and engagement in online courses.
- The Department will also consult with COCE and the Dean's Office on this.

Review and update as necessary the closed-captioning of the video lectures in online courses.

- The Departmental will complete this task with COCE assistance, there is a plan in place to do so.

Recommendation 3: Course Offerings

Students wanted more f2f course options, more graduate courses, more quantitative courses, and/or more field experiences. The recommendation is that the Geosciences department hold discussion on the following items:

1) How can more grad-only courses be developed given the current faculty workload?
2) How might field courses and field opportunities for students be expanded?
3) Could field experiences for summers or inter-sessions be developed with HBOI or CES?
4) Which hard-rock geology courses need to be developed?

- The Department Undergraduate Program Committee will explore possible options to rotate certain courses (online or f2f), to balance the need for f2f courses while sustaining online programs/certificates.
- It is difficult to offer more graduate courses with existing faculty. However, to satisfy the need for more grad-only courses graduate level DIS/DIR can be offered when needs arise for specialized subjects.
- The Department will explore options with CES and HBOI and which hard-rock geology courses need to be developed.

Recommendation 4: Faculty Personnel

Field camp courses: What does the department do with the staffing of field camp courses in the future? How does the department continue offering their own field courses as well as develop new opportunities for their students?

- The Department will begin the planning process to implement a revised team-taught Field Camp strategy that will incorporate local field opportunities in spring terms.
- A committee will be charged to develop a concrete plan for the Field Camp and make recommendations on curriculum adjustments.

Geospatial courses: What does the future look like for the geospatial courses? Does the department continue using servers and remote desktops for students to access proprietary geospatial software (e.g., ESRI, ERDAS)? Or should the department shift to more open-source software solutions?

- The Department will likely continue to use proprietary geospatial software for the majority of courses so that our students will acquire the necessary skills that make them readily marketable.
- ESRI is phasing out ArcGIS Desktop with ArcGIS Pro. The changes to ArcGIS Pro will address a number of performance and licensing issues students raised in the program review.
- Open source GIS software (QGIS) is already adopted in some GIS courses, as appropriate. Note: QGIS is not a complete GIS suite like the ESRI products.
- Currently, there are no open source equivalents for remote sensing software, such as Imagine, eCognition and ENVI.

Faculty hiring: The review team ranks highest the hiring of vacant lines in hydrology and climate sciences given the immediate curricular needs. Additionally, hiring human geography tenure-track professor is a priority.

- The Department agrees, and will seek approval to hire all three positions.

Faculty diversity: The recommendation is to increase the pool of diverse applicants for future faculty hires.

- The Department agrees, and values diversity greatly.
- The Department will follow university guidelines and post ads at the Association of Women Geoscientists and the National Association of Black Geoscientists websites.

Recommendation 5: Advising

Improve communication and coordination on curriculum between academic advisors and faculty. Faculty and advisers from the college should increase the awareness of careers and course rotation schedule within the majors. Include college advisors in departmental seminars and field trips.

- The Department Chair and faculty are actively engaged with college academic advisors both due to a good working relationship with advising and as part of an NSF Geopaths project. The COS Geoscience advisor has been exposed to all geoscience career path materials, and is involved in the implementation of articulation agreements between FAU's Geoscience program and Palm Beach State College.
- The Department we will continue to enhance interactions with the COS advising team, routinely meet with them and include them in relevant activities.
- The Department also has two dedicated department level advisors, but an enduring challenge is to get students to meet with the department advisors. To this end, the Department is planning to encourage students to seek advising through various means discussed in "communications" recommendation.

Recommendation 6: Increase formal involvement in Undergraduate Research

Geosciences could benefit from having a stronger connection to FAU's Office of Undergraduate Research and Inquiry (OURI). Increasing the awareness of undergraduate research opportunities for all students and extending undergraduate research opportunities to more students could be a recruitment tool.

- The Department agrees, and encourages faculty to include undergraduates in research labs. The Department has a strong record of undergraduates being funded through OURI on research projects.
- The Department is considering allocating some budget as incentive to the PI labs for involving undergraduate researchers.

Recommendation 7: Environmental Science BS (ESBS)

Geosciences must be included in conversations about the ESBS. The department is a natural home for the degree. There are internal College dynamics that make this a difficult topic.

- The Department agrees, and the Geoscience faculty are happy to explore options to discuss this with the ES program, Biology and other departments, and the College administration.

A name change for the Department is recommended, e.g. Department of Earth and Environmental Sciences. This might bring greater visibility from high school students because earth science is often in K-12 settings, but would also solidify the links between geoscience and environment.

- The Department agrees to change the Department name to "Earth and Environment Science" to heighten the visibility of strengths.
- We will present this to the Dean immediately for approval.

Recommendation 8: Alignment of Centers and Institutes

The College, and Department, need to take a more active role in bringing HBOI and CES closer to the Department.

- The Department agrees and will work with College administration to encourage increased faculty engagement with Pillars, and CES, - with CES particularly through RFL and the climate change theme.

Recommendation 9: Enhancing Communication with Pillars

Enhance communication and collaboration with pillars, specifically HBOI. Geosciences and HBOI could have a more collaborative and complimentary relationship.

- The Department agrees and will continue to advocate collaboration with Pillars at both department and faculty level.

Recommendation 10: Increase graduate student stipends (PhD and MS)

Investigate additional pay for PhD and MS students, especially PhD students who serve as instructors of record. Find a better time frame for letting MS students know about funding.

- The Department agrees and will explore reducing the number of TAs and reallocating the "extra" budget to increase the remaining TA stipends.
- The pay for student instructors of record will be discussed by the Department Graduate Program Committees.

Recommendation 11: Graduate plan of study (POS) changes

Effectuate a faster turnaround of POS or make the POS less important.

- POS is a requirement from Graduate College.
- The Department Graduate Program Director will present this recommendation to the college graduate program committee for consideration.

Recommendation 12: Increase communication with alumni

Increase communication with alumni – regularly produce a newsletter, LinkedIn, alumni board, alumni mentors.

- The Department is working on this, contacting recent alumni, creating an alumnus highlight page in the department web, and inviting alumni to talk in the departmental colloquium series.
- A Google Form will be created to collect alumni contact information to facilitate future contact with alumni.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Department of Mathematical Sciences

Program Review Executive Summary
September 2022

Department of Mathematical Sciences
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The mission of the Department of Mathematical Sciences at Florida Atlantic University is to foster understanding of the mathematical sciences, including both pure and applied aspects of the discipline.

We strive to provide first-rate undergraduate and graduate education in the mathematical sciences to our students and to increase mathematical ability in the community at large.

We seek to advance the frontiers of mathematical knowledge by engaging in innovative research and tackling fundamental problems in the mathematical sciences.

We work to bridge research, education, and applications of the mathematical sciences to serve the needs of the local community and the larger global society.

Headcount Statistics 2020-2021

- Undergraduate Students: 85
- MS students: 18
- PhD students: 47
- Faculty: 47

Degree Programs

BS Mathematics (including option of: Honors in the major)
BA Mathematics
MS Mathematics (five concentrations: Pure Mathematics, Applied Analysis, Biostatistics, Cryptology and Information Security, and Financial Mathematics)
MST Mathematics
MS Data Science Analytics (MS DSAL), joint program across colleges, Math houses track: Data Science and Analytics via Scientific Inquiry
PhD Mathematics
BS/MS fast-track combo program
Fast-track combo program with Wilks Honors College BA/BS programs to MS
Statistics Certificate
Cybersecurity Certificate
Actuarial Science Certificate

Cyber Security Graduate Certificate, joint program with the College of Electrical Engineering and Computer Science

Major Changes Since the Last Program Review

Curriculum

- To facilitate appropriate math course placement for students, the placement process for mathematics courses has been overhauled; a multi-factor placement mechanism, including **A**ssessment and **Le**arning in **K**nowledge **S**paces (ALEKS) is now in place
- The Department has implemented coordination of lower-division multi-section courses: including MAT 1033, MAC 1105, MAC 1147, MAC 2210, MGF 1106/1107, MAC 2311-2312, and STA 2023; and to some extent MAD 2301
- The Department has expanded its employment of Learning Assistants (LAs)
- The Math minor has been updated at the Department-level and is ready for higher level of approval
- The Department introduced a new 3000-level course in 2019 and a new 4000-level course in 2021; this is a redesign of the upper division portion of the undergraduate program
- The Department is participating in a multi-college effort to establish a BS in Data Science
- The Department is a major participant in a new multi-college MS in Data Science and Data Analytics

Outreach and Communications

- The Department has expanded outreach efforts (events and initiatives in South Florida and internationally) significantly
- The Department's webpage has been completely re-designed and is under continuous review
- The Department leads (with respect to organization and participation) to the annual AI and Data-Driven Science Conference in the College

Faculty

- Math faculty have increased their engagement in teaching and professional development with respect to best teaching practices
- Tenure-track and tenured faculty losses have occurred due to retirement, illness or better offers of employment elsewhere
- The Department now publicizes research and grant success on its web page and in press releases to provide greater recognition for research; teaching assignments are designed to reward and recover time for faculty having research success

Part 2: Findings

Reviewer Identified Strengths

- **FAU recognition** – the Department is recognized by the administration as a critical player in the university's strategic plan for *The Race to Excellence*
- **Leadership** – administrative representatives all spoke highly of the leadership provided by the past Chairs and the current Chair, Dr. Stephen Locke
- **Collegiality** – the Department is exceptionally collegial, warm, and inclusive, which creates a nurturing environment for young faculty and allows all faculty to concentrate on teaching and research
- **Student success** – the Department provides first-rate undergraduate and graduate education in the mathematical sciences and increases mathematical ability in the community
- **DFW rates success** – the DFW rate for MAC 1105, College Algebra, has been reduced to 15.7%, 17.8%, 14.6%, 10.9%, 13.2% and 12.1% in the last 6 semesters from the previous rate of 30%-40%; substantial growth of the LA (Learning Assistant) program has had a significant positive impact on DFW rates in the gatekeeper courses; DFW rates for MAC 2233, MAC 2311, 2312, and 2313 have been dramatically lowered in the last few years
- **Graduate program success** – high PhD enrollment of 53(2017/18), 52(2018/19), and 51(2019/20); TT faculty mentor more than two PhD students each; with an average of ~6 PhD graduates each year from 2014 to 2021; all this indicates that the program should be placed in the Math Public Medium Group (See http://www.ams.org/profession/data/annual-survey/group_public_medium) consisting of 40 departments, including Georgia Institute of Technology, the University of Florida, and Florida State University
- **Research** – research productivity of the Mathematics Department has increased sharply over the three years 2017 through 2020, with a more than 50% increase in the number of grant proposals submitted; Several faculty members have received federal research grants, including the prestigious NSF Career Award earned by Dr. Shi Bai; junior faculty are particularly strong in their research and scholarship activities
- **Center for Cryptology and Information Security (CCIS)** – established in 2003, has evolved into a university-wide center with collaborative membership from four FAU Colleges; FAU designated a National Center of Academic Excellence in Information Assurance/Cyber Defense Research (CAE-R) for the academic years 2014-2019; mathematics faculty in the center have considerable collaborations with computer science faculty in joint research, publications, submission of proposals, and co-ownership of at least one patent
- **Research outreach and reputation** – the Department organizes and hosts prestigious research conferences in mathematical sciences: e.g. 35 years of *Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, the Fifth International Conference on *Computational and Mathematical Population Dynamics* (CMPD5), and the twice-monthly online seminar ACCESS: *Algebraic Coding and Cryptography* on the East coast Seminar Series, which has an international audience

Reviewer Identified Challenges and Opportunities

- **The decreasing faculty size** – the Department is struggling to keep the number of faculty stable even as the Doctoral program held steady at approximately 50 students; this is an opportunity to draft a strategic plan that can identify areas of growth for new hires and align it with the university pillars as appropriate
- **The size of the BA/BS program in mathematics** – the number of BA/BS students has decreased from 137 (F12) and 141(F13) to 92(F19) and 71(F20); the department has made efforts in recruiting math majors; they redesigned their website and hosted several events involving student recruitment; this is an opportunity to create an Undergraduate Program Director position dedicated to the math major
- **Undergraduate research** – enhancement of undergraduate research opportunities may stimulate mathematical engagement among majors and attract more majors; faculty should promote these opportunities through OURI to students by announcing them in the classroom, via Canvas, and through personal communications; OURI should consider funding their research students to attend regional or national conferences as appropriate
- **High DFW rates in some courses** – the Department has the opportunity to apply previously successful strategies to mitigate the situation in some courses trending up above 40% DFW rate: MAC 2210, and MAC 1147
- **Increasing research collaboration and external funding** – the Department should align with Research Pillars and share faculty hires; external funding should be sought by faculty at all levels; graduate student training grants and other fellowships should be sought (e.g. NSF Research Traineeship (NRT) program, NSF Graduate Research Fellowship Program (GRFP), etc.)

Part 3: Program Review Response and Action Plan

Recommendation 1: Increase tenure-track faculty

The Department should establish a long-term hiring plan (embedded in its strategic plan) and work with the Dean's office on a two-three year hiring proposal to hire more tenure-track faculty, ideally two new hires each year. Also, alignment with Pillars and Platforms is recommended so that some positions are jointly funded.

- The Department agrees and aims to hire two additional Assistant Professors per year, Fall 2023, Fall 2024, Fall 2025, in addition to replacements for retirements and resignations.
- Two tenure-track assistant professors (both cryptographers) will start in August 2022.
- One to two tenured professors are expected to retire during 2022-2023.

Recommendation 2: Enlarge the size of its BA/BS program

The Department should plan to rebuild its BA/BS program, particularly to determine a threshold of a minimum number of enrollments in the program and work toward the goal. The department should consider creating an Undergraduate Program Director position on its leadership team.

- The Department agrees.
- A Program coordinator will be designated who will focus on alumni relations and undergraduate recruitment.

Recommendation 3: Enhance the MS/PhD programs

For non-FAU students, the Department should emphasize a stand-alone MS degree only requires two years and can serve as a feeder to the PhD program. For current FAU students, the emphasis should be the 4+1 degree program. We recommend the department work on its MS degree first and use its 4+1 program to improve its BA/BS program. The PhD program needs to be more competitive with other institutions. The graduate program population needs to be diversified. More relationships with liberal arts colleges which lack graduate programs to develop a pipeline to FAU math graduate programs are needed.

- The Department agrees and will work on developing relationships with institutions that do not offer doctoral programs, to create pathways for those students to FAU's Math PhD program.
- The Department will work with mathematical faculty at the state colleges in the area, to improve articulation, and improve recruitment and transition for transfer students into undergraduate majors with a view to completing the BS/MS fast-track combo program (hence increasing graduate program numbers).
- To help recruit more students the Department will regularly update its website showcasing its programs and faculty/student achievements.
- The Department is also advocating to the Dean for an increase in the graduate student stipends to help attract more/better quality students to the Math graduate programs.

Recommendation 4: Tenure-Track (TT) Faculty to Gateway Courses

TT faculty should be placed in select undergraduate gateway courses: while understanding TT faculty's research needs, TT faculty should get involved in undergraduate education such as teaching gateway courses and first-year student seminar courses – for student recruitment purposes to the major.

- The Department will increase the number of TT faculty scheduled to teach gateway courses, freshman honors seminars, and encourage TT faculty to participate in FAU's OURI programs (especially joint research). To encourage faculty to teach gateway courses, we will offer to set-up assignments in such a way that instructors of these courses will have fewer course preparation requirements (not fewer contact hours).
- In addition to the freshmen honors seminar, the Department plans to organize more student seminars at both undergraduate and graduate levels. This will include the "students-only" seminars, that were a really exciting feature for math majors and graduate students before the pandemic. Additionally, the Department already implements the Analysis and Application seminar series which runs every week and the "Cafe Crypto," which runs every other week. Students at all levels will be encouraged to attend by faculty.
- The Department will work to better encourage, promote, and support the student-run clubs in their activities, and involve them in the extensive Departmental outreach efforts (including the conferences the Department organizes on a regular basis).

Recommendation 5: Collaboration with Pillars

Establish collaboration with the university's four Pillars. The Department as a whole could harness the opportunities to establish several team projects with the Pillars. Establishing such partnerships will increase the departmental role in the university's research community, and will benefit the departmental hiring plan.

- Given FAU's designation as a university of distinction in applied artificial intelligence (AI) and big data analytics, the Department aims to encourage our faculty to initiate research collaborations with other experts in applied mathematical fields of joint interest, such as (and not limited to) data science and machine learning. In this way Math faculty will work closely with researchers in FAU's areas of strength in AI and big data, such as other departments and colleges (e.g., physicists, engineering), and institutes, such as the Max Plank Florida Institute for Neuroscience, Harbor Branch Oceanographic Institute, and Stiles-Nicholson Brain Institute.
- The Department will designate a committee in charge of creating events (such as workshops, seminars, etc.) where Math faculty and scientists from partner units (listed in the bullet point above) will be invited to give presentations. At the beginning, those events will be virtual and should take place as often as possible (the frequency and the budget will be determined by this committee).
- Release time (equivalent of 5 courses per year) for faculty will be required to prepare grants and projects of common interest with Pillars.

Recommendation 6: Relationship with Alumni

The department should track alumni to gather information on post-graduate employment or graduate studies. This will facilitate maintaining relationships with alumni paving the way for student internships, mentoring, scholarships, employment, and endowments.

- The Department agrees and will work on this recommendation with the FAU Office of Alumni Affairs.
- A Program Coordinator will be designated who will focus on alumni relations and undergraduate recruitment.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Department of Physics

Program Review Executive Summary
September 2022

Department of Physics
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The mission of the Department of Physics at Florida Atlantic University is to foster a deeper and more holistic understanding of the fundamental interactions in nature, and to apply this knowledge to both pure and applied aspects of the discipline. We do so as part of the Charles E. Schmidt College of Science and Florida Atlantic University, with whose mission statements we are entirely in line.

We aim to provide a first-rate undergraduate and graduate education in physics to our students and to increase scientific knowledge in the community at large. We pursue innovative pedagogy and novel teaching approaches, both on-line and in a face to face setting. We support our students by up-to-date advising and by offering the undergraduate students research opportunities.

We seek to advance the frontiers of scientific knowledge by engaging in innovative research and tackling fundamental problems in physics. We actively and persistently seek out funding from federal and other sources for our research. We publish our findings in peer reviewed journals and present it at scientific conferences, workshops, and seminars.

We work to bridge research, education, and applications of physics to serve the needs of the local community and the larger global society.

We welcome collaboration with colleagues across the disciplines, both at FAU and at other institutions. We strive for Diversity, Equity, and Inclusion, in our student body and amongst faculty and staff.

<u>Headcount Statistics 2020-2021</u>

- Undergraduate Students: 49
- MS students: 11
- PhD students: 32
- Faculty: 19

<u>Degree Programs</u>

BS Physics (including option of: Honors in the major)

BA Physics

MS Physics

MST Physics
Professional Science Master (PSM) Medical Physics
PhD Physics
BS/PSM fast-track combo program

Major Changes Since the Last Program Review

Curriculum
- PSM Medical Physics accreditation through Commission on Accreditation of Medical Physics Educational Programs (CAMPEP) was renewed
- Implemented a “First Year Seminar” and “Third Year Seminar” courses to better connect majors to the department hence better retain undergraduate majors
- Department offers “mock interviews” with industry partners to better prepare students for “real world” career opportunities
- Implemented UG Computational Physics course and two Elective UG courses in “Application of Data Science to Physics” that will be offered every 2-3 years
- Offered Python coding bootcamp through Society of Physics Students (SPS) in Summer 2019 that attracted some 50 students from a variety of majors (Engineering, Business, all the Sciences); bootcamp will be offered again in future years
- An influx of post-docs in the Department (hired by faculty through federal grants/start-up funds) has resulted in higher level of research productivity within the Department, more colloquia and enhanced mentorship for graduate students

Faculty
- One faulty hire, Assistant professor in Medical Physics was completed
- The Department gained two Astronomy hires, building that area of strength

Enrollment
- Undergraduate enrollment continued to fluctuate and overall declined

Outreach and Recruitment
- Implemented visits and talks at: local high schools and FAU Open Houses, organized workshops for high school physics teachers, and re-built the SPS chapter to help recruit majors
- The Department has targeted FAU High School students for recruitment into the major; Chair has co-taught a course on Data Science at the Max Planck Institute for this student population
- Implemented Department-based advising, and proactive outreach to struggling students

Research
- A research group in quantum computation and communication was established

Part 2: Findings

Reviewer Identified Strengths

- **Dedication and commitment** – dedication and commitment of the faculty, adjuncts, and instructors to the Department and the students is highly visible
- **High research activity** – majority of the faculty members are active in research and have research grants from a variety of funding agencies
- **Areas of excellence** – the FAUST (FAU Space-Time Physics) group and Medical Physics are areas of excellence in the Department; Medical Physics program is #6 in the US by the US News and World Reports College and University Ranking Methodology
- **Area of growth and opportunity** – these include: astronomy, quantum optics, and data science

Reviewer Identified Challenges and Threats

- **Administration** – reviewers noted there may be a perception among the administration that the department faculty members are not very research active. This is inconsistent with the review team's findings; the Department is mostly theorists *versus* experimentalists, with "theory-sized" grants predominating, which tend to be smaller
- **Faculty numbers** – number of faculty in the Department has decreased by ~ ⅓ in the last decade; the experimental program has decreased to a single faculty member; currently there is only one assistant professor in the department
- **Faculty pay** – faculty salaries are too low and there may be both compression and inversion issues in salaries
- **Graduate student stipends** – graduate student stipends are too low and pose a concern
- **Physics in Quantum Technologies** – a missed opportunity is the formation of a pillar in Physics in Quantum Technologies; this is the most active areas in experimental physics, attractive to students, receives high levels of federal funding, and could create many opportunities for collaboration with industry and national labs

Part 3: Program Review Response and Action Plan

Recommendation 1: Enhance visibility of department accomplishments and successes

The physics department is perceived (incorrectly) by the FAU administration as having low productivity, particularly in research productivity and grant activity. Medical Physics program is perceived as "expensive" and of having stagnated in student numbers.

- The Department is working in conjunction with the College's communication director to enhance the visibility of the Department's successes and its nationally ranked Medical Physics program through an up-to-date web-site and press releases.

Recommendation 2: Undergraduate program

Undergraduate students feel insufficiently aware of many opportunities such as Honors in the major, UG research, and Directed Independent Study, and also feel unprepared for upper level laboratories. The SPS Club needs to be more active.

- The Department will proactively reach out to students to increase awareness of research and other opportunities.
- The Department is in the process of updating curriculum to address issues of preparedness for upper level laboratories.
- Efforts will be increased by faculty to guide and nurture the SPS club.

Recommendation 3: Graduate program

Graduate students appear unaware of many facets of their assignments, independent study, travel support, etc. Students would like a "contract" that spells out the TA responsibilities and job description.

- The Department's Graduate coordinator will work with faculty to create a document that addresses these issues and post it on the Web-site.
- Incoming graduate students will be mentored in a special workshop devoted to this and other matters (financial aid, qualifying exam, etc.)

Recommendation 4: Tracking alumni

The department lacks a central database of its graduates and does not have a mechanism to keep in touch with graduates.

- The Department will create a database of graduates, and start a newsletter to be sent to current students and alumni.
- The Department will add an Alumni tab to the Department's Web-site and organize an annual Alumni social event, as well as invite alumni to Frontiers in Science lectures, physics workshops, and conferences.

Recommendation 5: Exit interviews

Exit interviews of students (undergraduate and graduate) will allow the department to measure its effectiveness.

- The Department will develop a questionnaire and encourage students to complete it just prior to graduation.

Recommendation 6: Replacement hire(s) of staff

The Department should to replace staff who have left (e.g. administrative assistant).

- The Department Chair will make the appropriate requests to the Dean and Provost to fill vacated positions

Recommendation 7: Institutional Collaborations

The Department should identify opportunities for collaborative grants within the university (e.g. with engineering and the pillars).

- The Department agrees. Faculty will brainstorm re: such opportunities at the first faculty meeting in Fall 2022.

Recommendation 8: Partner with national labs, hospitals, and industry

The Department should partner with national labs, hospitals, and industry, both as a source of funding and as an opportunity for internships for students.

- The Department agrees. Faculty will brainstorm re: such opportunities at the first faculty meeting in Fall 2022, building on pre-existing connections with hospitals through Medical Physics and faculty collaborative connections with colleagues at Los Alamos National Laboratory and other national labs.

Recommendation 9: Designated lower division lab sections for physics majors

The Department should designate lower division lab sections for physics majors. A physics specific laboratory curriculum would also prepare students better for the upper level physics labs (Physical Electronics and Modern Physics Laboratory).

- The Department will consider this suggestion.

Recommendation 10: Research opportunities for undergraduate students

Students are unaware of such opportunities. Creation of DIR in Physics will allow students to get credit for research.

- Per 2. Above: The Department will proactively reach out to students to increase awareness of research and other opportunities.
- The Department will create specifically designated DIR courses.

Long-Term Recommendation 1: Cluster hire of three experimental faculty at the junior level **It is essential to add more experimental faculty and specifically suggested a cluster hire.**

- The Department agrees. The physics faculty will formulate a hiring plan that is consistent with the University's and College's strategic plan.

Long-Term Recommendation 2: Update outdated equipment

Computers, projectors, software, and some lab equipment is in urgent need of updates.

- The Department agrees and will create a list of needed updates.
- Items that can be obtained through a Tech Fee proposal will be identified, and such funding sought in the next round of Tech Fee applications.

Long-Term Recommendation 3: Increase graduate student stipends

FAU graduate student stipends are approximately $ 20,000/year, well below what competitive programs offer. The reviewers urge the university to increase stipends.

- The Department agrees and will continue to lobby the Dean and Provost's Office for higher graduate student stipends.

Charles E. Schmidt College of Science
Florida Atlantic University

Report: External Evaluation of Academic Programs
Department of Psychology

Program Review Executive Summary
September 2022

Department of Psychology
Program Review Executive Summary

Part 1: Overview

Mission and Purpose

The Department of Psychology at FAU strives to increase our international reputation in the psychological sciences for cutting-edge interdisciplinary research, rigorous education and training, and an inclusive community of faculty and students with diverse backgrounds and perspectives who are uniquely positioned to address today's problems and tackle tomorrow's challenges. The mission of the Department of Psychology is to (1) provide excellent undergraduate and graduate education and research training in psychological science to prepare a diverse population of students for success in a variety of careers; (2) conduct innovative, impactful, and interdisciplinary scientific research contributing to basic understanding of psychological processes and their applications to contemporary and emerging issues; and (3) actively serve our profession and engage the local, national, and global communities to promote public understanding of psychological science.

Headcount Statistics 2020-2021

- Undergraduate Students: 1583
- MA students: 25
- PhD students: 40
- Faculty: 27

Degree Programs

BA Psychology
BS Neuroscience and Behavior
MA Psychology
PhD Experimental Psychology
BA Psychology/MA fast-track combo program
BS Neuroscience and Behavior/MA fast-track combo program
Applied Mental Health Services Certificate (with the Department of Counselor Education in the College of Education)

Major Changes Since the Last Program Review

Faculty
- Six faculty left – 5 due to retirement and 1 for another position; eleven faculty joined the Department (2 instructors, 1 research scientist, 8 tenure-track)
- Three of the new hires were co-hires with reduced teaching workloads; two with Neuroscience Pillar and one with Center for Complex Systems and Brain Sciences
- The Department faculty numbers over all increased from 23 in 2015 to 27 in 2021; percentage of women faculty increase from 26% in 2015 to 41% in 2021
- Two faculty became full time administrators outside the Department (Drs. Teresa Wilcox and Bob Stackman); they continue to have active research laboratories

Strategic Plan and Department By-Laws
- In 2019, the Department adopted a strategic five-year plan establishing six broad goals, with strategies and measurable outcomes
- In 2021, the Department approved a set of bylaws, setting forth policies and procedures for conducting the affairs of the faculty of the Department of Psychology

Curriculum
- In 2018, the Department changed the minimum grade required to count a course toward major from a D- to a C-
- Beginning in 2019, undergraduate students must complete Experimental Design and Statistical Inference course, prior to enrolling in Cognition, Biological Basis of Behavior 1, Social Psychology, Research Methods, and Stat Lab courses
- In Fall 2020, the Department implemented a new 1 credit undergraduate course, “Careers in Psychology”
- In 2021, the Department established the position of Coordinator of Undergraduate Studies that integrates many important functions dealing with undergraduate studies
- The Department gradually increased its online course offerings from two in 2015 to nine in Fall 2021, with between 15 to 20 online courses planned for Spring 2022

Outreach and Communications
- In 2020, the Department established the position of Communication Director to oversee communications and web presence for the Department

Graduate Students
- In 2017, the Department established a travel-fund program for graduate students
- In 2018, the Department assigned a large furnished room as a graduate-student lounge
- In 2019, the Department raised the Ph.D. stipend from $20,050 to $22,750
- In 2020, the Graduate College contributed $6,130 for Ph.D. graduate teaching assistants’ health insurance

Part 2: Findings

Reviewer Identified Strengths/Opportunities

- **Faculty** – almost all faculty are actively engaged in research with some operating at R1 level, and some at much less than R2 level; nationally and internationally recognized scholars, especially at Davie campus; faculty culture is generally positive; administration views the Department and faculty very positively;
- **Diversity** – there is an opportunity for a cluster hire focused on diversity (to diversify faculty)
- **Departmental Culture** – this culture is modeled for graduate and undergraduate students through experiential learning and numerous research opportunities
- **Brain Institute and Complex Systems, Health Pillar connection to Department** – these FAU entities connect closely to the Department's research interests with collaborations in place and expanding
- **Curriculum** – strong and conceptually sound curriculum, appears to have evolved over time; a two-tier teaching system is in place with lecturers and adjuncts effectively teaching large lower undergraduate sections and tenured faculty teaching smaller upper-level undergraduate and graduate sections; notably there are creative and efficient efforts at teaching large sections of undergraduate courses
- **Clinical Program** – there is an opportunity to develop a clinical program that would line up well with both community, regional and national needs
- **Cluster hire in minority health** – a cluster hire in this area would provide a rich context for the application and expansion of several areas of existing research focus in the Department
- **Collaborations across FAU campuses** – increasing cohesion across the three campuses can be achieved through colloquia, increased research collaboration, transportation to the Davie campus and is a great opportunity for the Department
- **Student population** – FAU has a diverse student population
- **Successful program alumni** – the Department produces successful student alumni
- **Advancement opportunities** – the Department should take advantage of opportunities in advancement
- **Strategic Plan** – the Department's five-year strategic plan is well-developed with a strong vision of psychology and neuroscience, including establishment of: the 2021 Policies and Procedures for the Department, Careers in Psychology course, minimum grade of C- in courses for majors; shuttle between Boca and Jupiter campuses, and increase graduate student support
- **The next level (R1)** – the Department is ready and poised to go to the next level which will require sustained support from the university leadership, i.e. to establish a clinical program

Reviewer Identified Weaknesses/Threats

Overall outdated feel to the curriculum in clinical and quantitative offerings

- The appearance of an outdated program and curriculum because of the lack of clinical training, particularly at the doctoral level, which puts the program out of step with most R2

student-centered public research institutions and outside of the evolving market and discipline of psychology
- The entire FAU Psychology curriculum in mental health rests on the shoulders of an adjunct faculty who has taught at FAU for over 30 years and is also a clinician in the community - this is not sustainable
- Additionally, quantitative curriculum needs updating

Lack of diversity

- Lack of diversity in the faculty and graduate student communities of the Department are in stark contrast to the undergraduate population, local area, and national demographics

Inadequate resources and consequent inequities

- There appears to be a lack of resources leading to issues of inequity across classes of faculty and the different campuses: salaries for administrative staff, instructors, and adjuncts are very low, given the high cost of living in the area
- Graduate student stipends are too low
- The Department lacks an equitable policy for allocating teaching assistants that considers class size and type of class rather than the status of the faculty instructor
- There are equity concerns between the three campuses - notably regular departmental seminars and colloquia, a standard practice in quality psychology departments, do not seem to occur
- There appears to be a lack of post-award support
- There appear to be a lack of merit raises to retain junior faculty, hence a number of such faculty were lost recently

Lack of clear grant or publication expectations for a 1:1 course load

- It does not appear that the course releases granted to faculty (to encourage higher research activity) are tied to clear publication or grant outcome expectations

Unintended consequence of developing three disjointed campuses

- This could lead to a Department with a two-tier system with teachers and researchers
- Pillar hires and designated research faculty with few teaching responsibilities may further exacerbate the issues
- There is the sense that Pillars are driving from the top down and forcing change of direction that might actually undermine the overall strength of the Department

Lack of stable leadership

- There appears to be a lack of leadership at the top tier of the university (no clear succession planning) and an unusually high focus on the most northern campus and its apparent lack of support of its most southern one

Part 3: Program Review Response and Action Plan

Recommendation 1: Develop Clinical Psychology Program

The development of a clinical program (with a focal interest in *minority mental health)* would line up well with both community, regional and national needs. The college or university should invest in a consultant who specializes in diversity in higher education and has experience with doctoral level psychology training.

- The Department has strengths in *healthy aging*.
- The Department concurs with this recommendation and will request funds to hire a consultant, e.g. Hanover Research, to assess the feasibility of adding a clinical psychology program in *minority mental health* and *healthy aging*.
- Additional resources will be required to accomplish this recommendation.

Recommendation 2: Increase Graduate Student Diversity

One option for the recruitment of more diverse graduate students is to create a junior scientist program that trains the highly diverse FAU undergraduates for graduate-level work, some of whom might elect to stay for the master's or doctoral programs. Other ideas include collaboration or programming with HACU and HBCU institutions.

- The Department proposes the following goals and action plan to accomplish greater graduate student diversity:
    - Goal 1. Create an environment conducive to a diverse student population.
    - Goal 2. Encourage faculty participation in DEI programs in the College of Science.
    - Goal 3. Utilize social media platforms to reach a more diverse graduate applicant pool.
    - Goal 4. Utilize current graduate students to serve as ambassadors to minority communities.
    - Goal 5. Monitor progress in achieving a more diverse graduate student body.
- The Department will seek to increase diversity in its graduate programs by recruiting from its very diverse undergraduate programs: the Department will encourage minority FAU undergraduate students (e.g. in FAU's psychology or neuroscience majors) to engage in faculty-sponsored research; develop and implement peer-to-peer mentoring programs through the Psychology Club; encourage more active near-peer (graduate student)-to-peer (undergraduate student) interactions in existing research labs; expose minority students from the psychology and neuroscience bachelor's programs to faculty research in the Honors Seminar; and actively encourage minority students to conduct Honors-Thesis research with faculty. - The Departmental (Diversity, Equity and Inclusion) DEI committee will track progress with respect to Goal 5.

- The Department plans to establish a webinar series 6 x per school year with a policy of inviting speakers that resemble the diverse student body at FAU with specific emphasis on underrepresented groups in STEAM fields.

Recommendation 3: Improving Graduate and Undergraduate Statistics Offerings

The quantitative curriculum needs updating. As one of the most fundamental requirements in a psychology degree, better attention is needed to ensure that this foundational information is taught in a deliberate, consistent, and effective manner. Similar issues exists at the graduate level.

- The Department agrees there is a need to update the quantitative curriculum, particularly at the graduate level, and will work together to:
    1. Consider quantitative training needs in proposed new faculty hires and will give priority to candidates who can teach advanced quantitative courses as needed.
    2. Offer at least one graduate seminar each year covering advanced quantitative or methodological topics beyond the initial quantitative course sequence, rotating between different courses in successive years.
    3. Update first-year graduate statistics course sequence to include an introduction to statistical programming.
    4. Encourage graduate students to pursue additional quantitative and methodological training outside of the course curriculum.
    5. Review Student Learning Outcomes for undergraduate statistics and research methods to improve coordination across course sections.

Recommendation 4: Resources Devoted to Faculty and Instructor Retention

Proactive measures should be taken to address these concerns so that the energy and resources used to recruit top faculty candidates are not squandered.

- The biggest salary gap relative to national and FIU norms is for FAU Psychology faculty at the Associate Professor rank.
- There is also a salary gap for instructors at FAU compared to instructors at FIU.
- The Department leadership will recommend to the Dean of Science that compression/inversion salary issues for Associate Professors be addressed, merit raises be implemented for faculty at all ranks, based primarily on scholarship, but also based on teaching and service, and instructor salaries should be increased to match the salaries of instructors at FIU.
- Additionally, the Department will seek to enable instructors the opportunity to earn overage for teaching an additional course beyond their contracts.

Recommendation 5: Resources Devoted to Staff Support

The salaries for administrative staff are very low, particularly given the high cost of living in the local area. These groups should be fairly compensating or the department and university risks losing dedicated employees.

- The Interim Chair values the knowledge, competence, conscientiousness, and motivation of the three individuals in the Chair's office and will request salary increases for these three support staff: Coordinator - Academic Support, Budget Coordinator, and Administrative Assistant.

Recommendation 6: Increase Faculty Hires at Davie

The Davie campus is in critical need of an instructor. This campus houses some of the most productive scholars in the department, and it is problematic that this group feels under-resourced and underappreciated.

- The Department will (again) propose hiring one new Instructor for the Davie campus, and additionally one new tenure track professor in the next 5 years (area to be determined).
- Such new hires would support the Psychology Department's aim of offering the same quality program across campuses.

Recommendation 7: Colloquia Series to Foster Cohesion and Diversity

Cohesion across the three campuses is an unusually important opportunity. Whether through colloquia, increased research collaboration, transportation to the Davie campus might be some ways to achieve this. The Davie campus comes across as heavy on teaching, and low on resources and recognition. This campus is an important presence and window to the Miami-Dade region that has yet to be appreciated and realized.

- The Department plans to establish a webinar series 6 x per school year with a policy of inviting speakers that resemble the diverse student body at FAU with specific emphasis on underrepresented groups in STEAM fields.
- The Department will have a graduate student ambassador for each speaker.
- The ambassador will work with their graduate advisor and the colloquium committee chair to organize the schedule and will also meet individually with the speaker.
- This will increase the visibility of our graduate students to leading scientists in the field, and aid in placement of our students after graduation.

Recommendation 8: Take Advantage of Opportunities in Advancement

The department should work with Advancement professionals in the college or university that can help them to coordinate communications and events with their alumni network. Meaningful engagement with this group will make them aware of innovative and exciting research and teaching in the department. Alumni networks lead to donor networks.

- The Department plans to increase engagement of alumni and community partners through our digital presence on the recently developed website and social media outlets.
- The Department will continue to feature prominent alumni on the digital platforms to increase visibility and maintain those relationships.
- The Department will seek greater collaboration with FAU's Foundation Advancement staff, which has tools in place for developing strategies to enhance fundraising and participation by alumni and other community partners.
- The Department plans to develop opportunities with the American Psychological Association (APA) in part through the Department's association with successful alumni such as Dr. Evans.
- The Department will use connections with the APA to increase the number of students who partake in the APA Internal Internship Program (http://www.apa.org/careers/internships/index.aspx).