

Fitchburg State University

Psychological Science

Self-Study Fall 2018

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Executive Summary of Comprehensive Plan for Improvement

a. Summary of the Self-Study Findings

The Psychological Science program has seen massive changes since our last self-study. Within the past five years, Psychological Science has become an independent department, separating from Behavioral Science; our new department has moved from the Division of Arts and Sciences to the Division of Health and Natural Sciences; our faculty have moved to our new office and classroom spaces in McKay; faculty finally have access to consistent laboratory research space which has resulted in an increase in faculty/student research; the department developed and passed comprehensive curricular revisions; and we have hired two new tenure-track faculty members (with a third to join us next year).

With an eye to our students, we have revised our curriculum, placing a strong emphasis on core areas of psychology while still allowing students the ability to specialize in cognitive science or applied psychology. We require and offer elective courses that utilize high impact practices (e.g., internship, research practica, labs). We have expanded our online and hybrid offerings to meet the needs of our students.

Despite all of these strengths, the current self-study also reveals some weaknesses. Although there has been some progress in the area of assessment, further development of the assessment plan is necessary. There remains a lack of diversity in the faculty in the department, despite the trend towards greater diversity in our student body. There is limited student involvement in Psychology Club and Psi Chi. Adjunct faculty are overrepresented in introductory course offerings.

In response to the identification of the assessment weaknesses, Psychological Science proposes that the department undertake the identification of critical APA learning outcomes to be used as the basis of curriculum mapping, develop an internship evaluation more closely aligned with those learning outcomes, and construct a student exit survey to be administered in History and Systems. Concerning the lack of student involvement in departmental clubs, the department proposes to create and administer a student interest survey to encourage student engagement. Related to diversity issues, the department has recently completed a tenure track search for a faculty member with more experience related to diversity and the department proposes the creation of a cross-cultural psychology course. Finally, with regards to the heavy placement of adjunct faculty in introductory courses, the chair will explore alternate uses for adjunct faculty across the curriculum.

II. Overview and Vision

a. Brief Overview of the Department

At Fitchburg State University, education in Psychological Science goes back over a century to the earliest days of Fitchburg Normal School; however Psychology was not established as an independent major at Fitchburg State University (then College) until 1971. Psychology was one of the first liberal arts majors offered as the college expanded beyond its traditional role as a teacher-training center. Prior to offering the major, we offered a number of psychology courses to support the college's teacher training mission. These courses (e.g., General Psychology, Adolescent Psychology, Abnormal Psychology) continue to be offered today and enroll many students from other majors. The major was designed to encompass the broad range of scientific inquiry in the field of psychology.

For many years, Psychological Science (then Psychology) was housed within the department of Behavioral Sciences along with three other undergraduate majors, Criminal Justice, Sociology and Human Services. When the dean structure was adopted at the University, Behavioral Sciences was placed within the division of Liberal Arts and Sciences. Beginning in Academic Year 2015-2016, Psychological Science became its own department with a dedicated chair, governing structure, and budget. At that time the department elected to move from the division of Liberal Arts and Sciences to the division of Health and Natural Sciences where we currently reside.

b. Program Vision, Mission, and Objectives

i. Vision

The Psychological Science program at Fitchburg State University will be recognized at the local, state, and regional levels for its excellence in designing and delivering current, innovative curriculum and individualized learning experiences that optimize the preparation and competitiveness of our graduates for professional careers or graduate study. Students in our program will:

- develop a strong knowledge base in psychology;
- acquire the skills of scientific inquiry, critical thinking, and information literacy that are characteristic of scientists and scientist-practitioners;
- become ethically and socially responsible citizens of their professional, local, and global communities;
- cultivate strong written and oral communication skills;
- engage in self-reflective preparation for post-baccalaureate employment or graduate school.

ii. Mission

The Psychological Science department supports the mission of Fitchburg State University with our commitment to excellence in teaching, research, and individual student mentorship. Our program's emphasis on the scientific study of the mind and human behavior prepares students to understand the challenges and contributions of psychological inquiry and interdisciplinary collaboration in the pursuit of understanding human thoughts, behaviors, and emotions. Students develop the skills and dispositions necessary to become discerning, analytical thinkers who value the ethical, responsible, and inclusive application of scientific methodologies and findings to the investigation of human nature and the improvement of the human condition.

iii. Objectives

The Psychological Science department is guided by the American Psychological Association's Guidelines for the Undergraduate Psychology Major, Version 2.0 (2013), which encompasses five major learning goals that are further specified by student learning outcomes and measurable indicators of expected performance at both the foundational and baccalaureate levels. By means of high quality advising and teaching, students are guided through the curriculum with an eye towards graduate school and/or career preparation.

The five major learning goals that drive our curriculum and serve as the basis for our department's vision are listed below.

Goal 1: Knowledge Base in Psychology

Goal 2: Scientific Inquiry and Critical Thinking

Goal 3: Ethical and Social Responsibility in a Diverse World

Goal 4: Communication

Goal 5: Professional Development

c. Relationship to the University Mission, Vision, and Strategic Plan

University Vision: Fitchburg State University will be nationally recognized for its excellence in teaching and learning in current and emergent fields, for its commitment to transforming lives through education, and for its dedication to public service. In order to achieve this, we will:

- *Prepare students for a global society through curricular innovation and program development*
- *Achieve academic excellence by investing in our faculty and librarians in their pursuit of knowledge, professional competency, and scholarship*
- *Employ innovative uses of technology in the library and across our campus to maximize student learning*
- *Create a culture of diversity to meet the needs of the region and enhance the personal and academic lives of the university community*
- *Build partnerships within our community to provide real-world opportunities for our students and collaborative solutions to community issues.*

University Mission: Fitchburg State University is committed to excellence in teaching and learning and blends liberal arts and sciences and professional programs within a small college environment. Our comprehensive public university prepares students to lead, serve, and succeed by fostering lifelong learning and civic and global responsibility. A Fitchburg State education extends beyond our classrooms to include residential, professional, and co-curricular opportunities. As a community resource, we provide leadership and support for the economic, environmental, social, and cultural needs of North Central Massachusetts and the Commonwealth.

The department's mission and vision align seamlessly with the University's mission and vision. We strive for excellence in teaching and learning, and we serve equally students with aspirations towards careers in scientific research, applied professional psychology, and general liberal arts interests. Our majors are instilled with dispositions towards ethical behavior, social responsibility, and lifelong learning.

The University's strategic plan contains four goals that aim to:

- Strengthen academic programs,
- Promote student success by breaking down barriers,
- Build a university community that embraces civic and global responsibility, and
- Grow and strategically align university resources.

The Psychological Science department contributes positively to each of the university's strategic planning goals. Towards strengthening academic programs, we implemented a new curriculum with two concentrations that represent and prepare students for high-demand areas in the field today. This choice also meets the University vision of offering training in current and emergent fields.

To promote student success, we deliberately designed our curriculum to remove courses that were known barriers to program completion and we implemented a flexible capstone model where students are able to complete this requirement through one of four options: an advanced seminar, an internship, a research practicum, or an independent study project. It should be noted that each of these capstone options aligns with the University mission and vision by allowing us to offer the individualized experiences that students need to become competitive in a global society that demands relevant, real-world academic and field-based experiences.

Towards building a university community that embraces civic and global responsibility, we designed a new internship program from the ground up to offer students a variety of experiences working within and serving the local community and beyond.

Finally, we contribute positively to university growth and resource allocation, as we consistently attract strong numbers of students to our program through the major, minor, and individual course offerings within both the day and GCE units. We have also streamlined our course offerings by eliminating courses that were not the best fit within our revised curriculum or that were demonstrated barriers to degree completion.

d. Overview of Program (including minors, concentrations, and graduate coursework)

i. Psychological Science Major

Students may graduate with a B.A. or a B.S. in Psychological Science. The Psychological Science department offers a major in psychology with the option of adding one of two different concentrations (cognitive science or applied psychology). All majors are required to take PSY 1100 Introduction to Psychological Science and MATH 1700 Applied Statistics as prerequisites, but neither course is included in the major. All majors take a minimum of 39 credits in the major including a common set of core courses:

Course #	Course Name	Credits
PSY2000	Research Design & Analysis I (Prereqs: Min 2.0 in both PSY1100 and MATH1700)	4
PSY2100	Research Design & Analysis II (Prereq: Min 2.0 in PSY2000)	4
PSY2030	Biological Psychology	3
PSY3415, 3501, 3505, or 3555	Lab course (Prereqs: Min 2.0 in MATH1250, 1300, 1700, 1800, 2100, or higher)	1
PSY4000	History & Systems of Psychology (Prereqs: Jr./Sr. standing, min. 2.0 in both PSY2000 and 2100, completion of at least one 3000-level PSY course)	3
PSY4810, 4820, 4900, or 4904	Capstone Course	3-6
Total Credits		18-21

In addition, each pathway through the major requires a series of foundation and elective courses, with at least one course in the major designated as a developmental course. In this manner, students acquire both breadth and depth within the major:

Psychological Science (no concentration)	Cognitive Science Concentration	Applied Psychology Concentration
Foundation Course (3 cr.)	PSY3050 Cognitive Neuroscience (3 cr.)	PSY2300 Psych. of Personality or 2500 Social Psychology (3 cr.)
Foundation Course (3 cr.)	PSY3430 Sensation & Perception (3 cr.)	PSY3500 Psychology of Learning (3 cr.)
Foundation Course (3 cr.)	PSY3550 Cognition (3 cr.)	Applied Psych. Course (3 cr.)
PSY3430, 3500, 3530, or 3550 (3 cr.)	Foundation Course (3 cr.)	Applied Psych. Course (3 cr.)
Foundation or Elective (3 cr.)	Foundation Course (3 cr.)	Adv. Applied Psych Course (3 cr.)
Foundation or Elective (3 cr.)	Foundation or Elective (3 cr.)	Foundation Course (3 cr.)
Foundation or Elective (3 cr.)	Foundation or Elective (3 cr.)	Foundation or Elective (3 cr.)
Total Credits 21	Total Credits 21	Total Credits 21

Our course offerings are as follows:

Foundation Courses			
PSY1200	Lifespan Development (3 cr.)	PSY3430	Sensation & Perception (3 cr.)
PSY2001	Memory (3 cr.)	PSY3500	Psychology of Learning (3 cr.)
PSY2300	Psychology of Personality (3 cr.)	PSY3530	Motivation (3 cr.)
PSY2350	Abnormal Psychology (3 cr.)	PSY3550	Cognition (3 cr.)
PSY2500	Social Psychology (3 cr.)		

Lab Courses	
PSY3415	Sensation & Perception Lab (1 cr.)
PSY3501	Psychology of Learning Lab (1 cr.)
PSY3505	Motivation Lab (1 cr.)
PSY3555	Cognition Lab (1 cr.)

Elective Courses	
<i>Applied Psychology Courses</i>	
PSY2015	Introduction to I/O Psychology (3 cr.)
PSY2370	Psychology of Human Relations (3 cr.)
PSY2665	Health Psychology (3 cr.)
PSY3200	Developmental Psychopathology (Prereq: PSY2350; 3 cr.)
<i>Advanced Applied Psychology Courses</i>	
PSY3000	Advanced I/O Psychology (Prereqs: PSY2015 and 2100; 3 cr.)
PSY3100	Clinical Psychology (Prereqs: PSY2100 and 2350; 3 cr.)
PSY3150	Psychological Science in the Schools (Prereqs: PSY2100 and 2010, 2230, or 2840; 3 cr.)
<i>Additional Electives</i>	
PSY2010	Child Development (3 cr.)
PSY2110	Intro to Research Methods (3 cr.)
PSY2220	Adult Development & Aging (3 cr.)
PSY2230	Adolescent Development (3 cr.)
PSY3010	Consciousness (3 cr.)
PSY3050	Cognitive Neuroscience (3 cr.)
PSY4800	Teaching Practicum (6 cr.)
PSY4803	Teaching Practicum (3 cr.)
PSY4975	Directed Study (1-6 cr.)
<i>Capstone Courses</i>	
PSY4810	Practicum (3 cr.)
PSY4820	Practicum (6 cr.)
PSY4900	Independent Study (1-6 cr.)
PSY4904	Advanced Seminar (3 cr.)
PSY4950	Internship in Psych (6 cr.)
PSY4949	Internship in Psych (9 cr.)
PSY4960	Internship in Psych (12 cr.)

ii. Psychological Science Minor

The Psychological Science department offers a 21 credit minor in Psychological Science. Students are required to take PSY 1100 Introduction to Psychological Science, PSY 2030 Biological Psychology, and PSY 2110 Research Methods. Students must then take an additional four psychological science courses to complete the minor. Students who have already taken an approved research methods course in the behavioral sciences department (CJ 3130, HMSV 2050, or SOC 3130) may waive PSY 2110 and take an additional psychological science course to complete the 21 credit minor. More detail regarding this minor is provided in the Curriculum section of this report on page 20.

iii. Neuroscience, Behavior, and Cognition (NBC) Minor

Faculty in Psychological Science have collaborated with faculty in Biology and Philosophy to develop (and occasionally revise) requirements for the NBC minor, an interdisciplinary minor in cognitive science for which students study the mind from various perspectives in cognitive psychology, biology, and philosophy. The minor requires 18 semester hours in designated courses in Biology, Philosophy, or Psychological Science. More detail regarding this minor is provided in the Curriculum section of this report on page 20.

iv. Graduate Program

There is no graduate program housed within the psychological science department.

v. Disciplinary Best Practices

The American Psychological Association (APA) has outlined a variety of recommendations for strengthening the quality of undergraduate psychology programs. The APA's recommendations include actionable items to enhance student success, curriculum design, and assessment practices. These recommendations were taken into consideration in our curricular redesign after our last program review. For example, our curriculum includes a strong core that focuses on fundamental knowledge and research skills in psychology, and our capstone requirement allows students to experience the high-impact practices recommended by the APA, including research experiences, internships, and independent projects. Students are encouraged to complete the research methods courses early in their program of study, and all students in the major have the same high quality opportunities available to them, regardless of concentration within the major. As recommended by the APA, our concentrations have strategically sequenced or associated courses that capitalize on our methods courses, foundational courses, and faculty expertise to allow students to gain greater depth of knowledge within the field. In addition, our curricular revision and clearer vision for our department allows us to offer high-quality academic advising that better matches students with faculty who have expertise in areas related to their own interests.

e. Internal Demand of the Program or Department

Many psychological science courses are required by majors and minors across campus. These are detailed below:

i. Service Courses

Biology Major: Neuroscience and Behavior Concentration

- PSY 1100 Intro to Psychological Science
- PSY 3500 Psychology of Learning or PSY 3550 Cognition

Health Sciences Concentration

- Elective: PSY 1100 Intro to Psychological Science

Early Childhood Education (PreK-2), BSE

- PSY 1200 Lifespan Development (formerly Human Growth & Development)

Elementary Education

- PSY 1200 Lifespan Development

Clinical Exercise Physiology Concentration

- PSY 1100 Intro to Psychological Science

Exercise Science Strength and Conditioning Concentration

- PSY 1100 Intro to Psychological Science

Exercise Science Fitness Management Concentration

- PSY 1100 Intro to Psychological Science

Criminal Justice

- Elective: PSY 2350 Abnormal Psychology (requires PSY 1100 as a prerequisite)

Criminal Justice Minor

- PSY 2350 Abnormal Psychology (requires PSY 1100 as a prerequisite)

Disability Studies Minor

- Electives: PSY 2350 Abnormal Psychology, PSY 2370 Psychology of Human Relations (formerly Interpersonal Effectiveness), PSY 2700 Educational Psychology (no longer offered), PSY 3200 Developmental Psychopathology (all courses require PSY 1100 as a prerequisite while PSY 3200 also requires PSY 2350 as a prerequisite)

Human Services

- PSY 1100 Intro to Psychological Science
- PSY 1200 Lifespan Development
- PSY 2350 Abnormal Psychology

Neuroscience, Behavior, and Cognition Minor

- PSY 1100 Intro to Psychological Science
- PSY 3550 Cognition
- Electives: PSY 2001 Memory, PSY 2030 Biological Psychology, PSY 3010 Consciousness, PSY 3050 Cognitive Neuroscience, PSY 3415 Sensation and Perception Lab, PSY 3440 Sensation and Perception, PSY 3500 Psychology of Learning, PSY 3501 Psychology of Learning Lab, PSY 3555 Cognition Lab

Peace Studies Minor

- Elective: PSY 2250 Psychology of Women (no longer offered), PSY 2370 Psychology of Human Relations (requires PSY 1100 as a prerequisite)

Interdisciplinary Studies Humanities Concentration

- Elective: PSY 3050 Cognitive Neuroscience (requires PSY 1100 and PSY 2030 as prerequisites)

Nursing

- PSY 1100 Intro to Psychological Science
- PSY 1200 Lifespan Development

- ii. Assessments of Student Learning for the Service Courses as they relate to the LA&S Student Learning Outcomes (SLOs)

In Spring 2009, the LA&S committee assessed 30 psychology papers with the Citizenship rubric. In Spring 2010 assessors tried to evaluate Introduction to Psychological Science (formerly General Psychology) papers, but determined they could not be assessed for Citizenship. The criteria being used for assessment of Citizenship did not relate to the material covered in the course. Assessment of psychology courses for Citizenship outcomes has been suspended at this point in time.

- iii. Enrollments in PSY 1100 Introduction to Psychological Science, PSY 1200 Lifespan Development, and PSY 2350 Abnormal Psychology (Spring 2014 – Fall 2018)

Semester	PSY1100 Intro to Psych Actual(Available Seats)*	PSY1200 Lifespan Dev Actual(Available Seats)*	PSY2350 Abnormal Actual(Available Seats)*
Spring 2014	130	157	134
Fall 2014	363	233	61
Spring 2015	181 (182)	145 (157)	122 (120)
Fall 2015	326 (330)	214 (215)	61 (60)
Spring 2016	199 (198)	125 (124)	89 (90)
Fall 2016	280 (281)	238 (240)	85 (85)
Spring 2017	175 (190)	126 (124)	116 (115)
Fall 2017	276 (281)	276 (273)	88 (85)
Spring 2018	154 (157)	125 (124)	84 (85)
Fall 2018	339 (335)	307 (306)	93 (90)

* Data only available beginning Spring 2015

Demand continues to be strong for these courses with the majority of the sections fully or even over-enrolled. Any drops in the total numbers in these courses are likely due to limitations on the numbers of sections we are able to offer as well as an increase in the online/hybrid sections which have lower enrollment caps.

- f. Recommendations and Actions from Previous Five Year Review (Spring, 2014)

Our review made the following nine final recommendations:

External Reviewer Recommendation	How Recommendation was Addressed/Met	Date Met
Separate the Program into its own Department	The faculty submitted an AUC proposal to become its own department. Becoming an independent department has allowed us to shift divisions within the University from the Division of Arts and Sciences to the Division of Health and Natural Science, which is more clearly aligned with our identity as a scientific discipline. Finally, the graduate counseling program, housed within the Behavioral Sciences department, has been given its own prefix (COUN), so that the program is no longer identified with the Psychological Science department.	Approved Summer 2015
Hire a chair, with tenure and full professor rank, from the outside to deal with some of the issues indicated in the document (or find someone from inside the department who is able to unite the faculty)	Sara Levine, Full Professor, was elected chair of the department in Summer, 2015, and was re-elected Fall, 2018.	Summer 2015

External Reviewer Recommendation	How Recommendation was Addressed/Met	Date Met
Have a retreat for the purposes of dealing with departmental stress, strategic planning, and course development/reduction of electives	We have held several retreats focusing on many of these issues. We also spent substantial time on curricular redesign during the year after becoming our own department that resulted in 21 proposals being submitted to the All University Committee. As part of our curricular revision, we eliminated a number of courses to streamline our offerings and improve our ability to offer the full range of courses that students need to complete their degrees. Our course numberings now represent a true stratification by content and expectations, and all majors take the same introductory course.	May 2017, 2018
Develop a robust group advising model to deal with all of the students	This recommendation was not pursued. Emphasis in the department as well as the University is on personalized, intrusive advising.	
Develop strategies for including students in meetings, etc. so they understand what is happening	We have held an introductory meeting for all Psychological Majors every Fall in which we provide an ice cream bar and review the curriculum, introduce faculty, and answer questions about the program. We also hold internship planning meetings every semester as well as occasional career-planning workshops.	Every Fall since 2016 as well as meetings throughout the semester
MOVE TO MCKAY	We now reside in McKay	Spring 2016
Spend time on a retreat for thoughtful, strategic planning, and for developing ways to deliver an excellent undergraduate experience for students, including diversity of coursework, research opportunities, mentoring and advising, and communication with a larger audience of psychological science folks	As stated above, we have held several retreats and believe that our new curriculum encourages and allows for greater student exposure to research both within the Psychological Science requirements as well as further research involvement as a capstone experience. Our department has a clearer identity since the last review, with a curriculum that highlights faculty expertise through our two concentrations in cognitive science and applied psychology. We have also hired two new faculty with cognitive science expertise since the last review, and we have successfully concluded our most recent search to fill an applied psychology position in the department.	Ongoing
Clearly delineate research expectations for new faculty; perhaps develop a new faculty mentoring program within the department	While no formal new faculty mentoring program exists within our department, this program exists at the University level. The Chair frequently consults with faculty regarding their research and pedagogical needs and plans.	Ongoing
Support grant activity	Multiple faculty in the department have written and been awarded outside grants as well as internal special project awards. Prior to serving our department, our administrative assistant worked in the grants office so she is particularly helpful with the administrative side of the grants.	Ongoing

g. Departmental/Program Initiatives and Significant Changes During the Five Years Since the Last Review

i. Interdisciplinary Program

The Neuroscience, Behavior, and Cognition Minor is fulfilled by taking cognitive science courses in biology, philosophy, and psychological science. (Please see detailed description on p. 20.)

ii. Delivery Mechanisms

Over the five years since the last review, the Psychological Science program, in addition to face-to-face and online classes, now offers hybrid classes. (Please see p. 18 for more information on Course Delivery Methods.)

iii. Service Learning and Community Outreach

The Psychological Science Major does not currently offer service learning experiences to our students. We do however have an internship program in which the numbers of students participating are growing.

When Psychological Science separated from Behavioral Science and we implemented the new curriculum for Psychological Science, the department voted to suspend Internship for a year. Prior to our separation, psychology students completed their internships through the Human Services Program. In designing our new curriculum, it was important to the department to restructure the Internship course and experience to make it more suitable for our students, emphasizing evidence-based research rather than direct service. The Internship is currently one of our Capstone courses.

Over the last five years, it has often been a challenge to run the Internship Seminar. We have not had enough students enrolled in the course to run the seminar that is supposed to accompany the internship. When that happens, the students in internship end up working with individual faculty members and miss out on the benefits a seminar adds to this experience.

The internship program is currently coordinated by one of our faculty. The faculty coordinator for Psychological Science internship does not receive a course release. Instead, the coordinator for Psychological Science Internship is given a slightly reduced advising load. Currently we have faculty willing to coordinate internship with this arrangement, however we anticipate demand for internship experiences growing as more students progressing through our new curriculum reach their senior years and if release time is not granted for our coordinator, this program will likely not be able to continue.

Preparation for internship begins with a meeting at the beginning of the semester when students are initially introduced to the internship experience and its requirements. The coordinator leads the students through the application process which includes an interview with our faculty, finding an internship that meets the individual student's future objectives, and finally completing the paperwork process and contracts. The coordinator conducts site visits, making sure the internship sites are responsibly supervising our students and their learning experience, and typically runs the internship seminar when we have sufficient student numbers to run it (typically at least 5 students).

More information regarding Internship, including the numbers of students completing internship broken down by semester can be found on p. 17 in the Learning Experiences section.

1. Community Outreach

Currently the Adult Development and Aging course requires students to volunteer in the community with adults, ages 70 and older. They are required to write a paper applying course concepts to the individual they are working with. Dr. Goldman is currently exploring creating a civic engagement project with Dr. Williams in the Human Services department that focuses on older adults and the elderly.

Hildy Schilling (Psychological Science professor) does conduct the Fitchburg State University Community Orchestra which provides opportunities for community musicians to play in an orchestra. This orchestra is composed of members of different ages (12 years to 90-plus years), different educational backgrounds (middle, high school, college students to folks with a high school diploma to MD and PhDs), to people from different SES, race, and ethnic groups. This is a nurturing group of people who care for each other and understand each other's issues and problems. Not only is there tremendous cognitive benefit from playing music, there is also personal psychological benefit from being in a group of caring folks.

Hildy Schilling also developed and runs a middle violin program. Through grants, she was able to purchase violins, violas, cellos, and a bass so that any middle school student in Leominster who wants to learn to play a string instrument has the opportunity. The program is free for students, Hildy is paid through self-generated grants, and she teaches dozens of students each week. Most of the students in the program come from homes that would not allow them to afford the opportunity to have an instrument and take music lessons. The opportunity to be able to engage in the arts and the cognitive and psychological benefits of learning to play an instrument as a child are well documented in the developmental literature.

Hildy Schilling and Tom Schilling have conducted research in conjunction with the Fitchburg Planning Department using GIS data, survey instruments, and data analysis to develop funding priorities for Fitchburg's City Development Block Grant. The results of the research were used by the mayor's office and the Fitchburg City Council to provide funds for the tearing down of abandoned buildings, the creation of rail-trail networks, park refurbishment, road repaving, and other city improvement projects.

Hildy Schilling and Thomas Schilling are part of a research team that received nearly a million dollars in grants from the Department of Justice to study the effectiveness of an opioid treatment program that allows arrested addicts to avoid a prison sentence and permanent criminal record.

III. Assessment

a. Program Inputs

i. Program Distinctiveness

The Psychological Science Department at Fitchburg State University offers a comprehensive program that educates undergraduates in the broad field of psychology. Of particular note, the program's place in the Division of Health and Natural Sciences and its name, Psychological Science, emphasize the program's focus on the use of the scientific method to study mind and behavior. The emphasis on the scientific method and use of empirical findings to form course content, along with the development of scientific skills in the required Research Design and Analysis courses and required lab courses, position the Psychological Science department as a

science-focused program. The Psychological Science program meets the five goals (and sub-goals) of the American Psychological Association's Learning Goals and Outcomes (version 2.0).

The field of psychology does not rank undergraduate programs nor are there any particular accreditation agencies certifying undergraduate psychology programs. Fitchburg State's Psychological Science program offers many of the same courses found in the other state universities in Massachusetts (e.g., Abnormal Psychology, Biological Psychology, Sensation and Perception, Psychology of Personality, Psychology of Learning, Child Development, etc.). In addition, the program also requires students to take courses in statistics and research methodology. Unlike other institutions however, the program integrates the statistics and methods material into a sequence of two, 4-credit class through which students pass as a cohort. Psychological Science program also offers unique courses such as Psychology of Human Relations and Psychological Science in the Schools as well as a concentration in Applied Psychology for students interested pursuing a degree that prepares them for entry-level work in the helping professions, industrial-organizational psychology, and graduate programs in applied behavioral analysis (ABA), clinical/counseling psychology, and school psychology. Finally, the program also has a concentration in Cognitive Science, the only such concentration offered at any of the state universities in Massachusetts. This concentration requires students to take courses that focus on experimental methods and findings on how the mind structures and processes information used in pursuit of thinking, problem solving, decision-making, and action.

Cognitive psychologists in the Psychological Science program have collaborated with faculty in the Biology and Philosophy programs to develop the Neuroscience, Behavior, and Cognition minor. To fulfill the requirements of the minor, students study the mind from different disciplines by taking cognitive science courses (e.g., Cognition, Neuroscience, and Consciousness) offered in psychological science, biology, and philosophy courses. This is the only interdisciplinary program of its kind among the state universities (note, Worcester State has a broader Psychobiology minor). In support of this program, the Psychological Science department has a cross-listed course with the Philosophy program entitled Scientific and Philosophical Study of Consciousness. This course, taught by two professors (one from Philosophy and one from Psychological Science), presents scholarship from both philosophy of mind and cognitive science to give an overview of the complicated issues related to understanding consciousness. This is one of the few regularly offered cross-disciplinary course at Fitchburg State.

Data pulled from the Gray Associates database allows us to compare the number of completions in our program to that of some of our sister institutions. The number of students in our program is small compared to these other schools but examination of each of the school's completions as a percent of the total completions reveals that the percentage of students we have graduated has risen slightly at the same time that there has been a small increase in total demand.

Institution	2014 Completions # (% of Total)	2015 Completions # (% of Total)	2016 Completions # (% of Total)
UMASS-Boston	269 (28%)	326 (31%)	306 (29%)
Bridgewater State University	245 (26%)	267 (26%)	272 (26%)
Worcester State University	147 (15%)	154 (15%)	173 (16%)
Salem State University	152 (16%)	151 (14%)	161 (15%)
Framingham State University	107 (11%)	105 (10%)	101 (10%)
Fitchburg State University	30 (3%)	44 (4%)	37 (4%)
Total	950 (100%)	1,047 (100%)	1,050 (100%)

ii. Students by Program

1. Student Enrollment

<i>Undergraduate Day Students</i>	AY 2014	AY 2015	AY 2016	AY 2017	AY 2018
Incoming Freshman Majors	46	33	34	34	35
Incoming Transfer Majors	25	22	23	22	18
Total Enrollment in Psych Sci Classes	2,093	2,269	2,321	2,249	2,226
Percentage of Total Enrollment	6.16%	6.66%	6.81%	6.58%	6.50%
Overall Enrollment in Psych Sci Major	219	212	206	216	215
Percentage of Overall Declared Majors	5.67%	5.53%	5.32%	5.53%	5.00%
Overall Enrollment in Psych Sci Minor	166	158	173	201	186
Overall Enrollment in NBC Minor	18	20	22	27	31
<i>Student Enrollment by Race/Ethnicity</i>					
American Indian or Alaskan Native	0	1	1	2	0
Asian	2	2	4	3	3
Black or African American	29	28	37	35	38
Hispanic	28	30	29	37	31
More than one	4	8	9	10	10
Native Hawaiian or Pacific Islander	0	0	0	0	0
Unknown	8	8	4	3	1
White	148	135	122	126	132
Total	219	212	206	216	215
% Diverse*	29.9%	33.8%	39.6%	40.8%	38.6%
Institutional % Diverse*	20.6%	23.7%	27.0%	28.0%	30.0%
*based on known race/ethnicity					
Retention Rate in Psych Sci Major	58.14%	43.75%	65.63%	66.67%	57.14%
Retention Rate in any Major—Institution	62.15%	58.75%	62.36%	66.09%	64.85%
Graduates in Major	30	50	41	46	42
Percentage of Overall Graduates	3.74%	6.93%	5.46%	5.87%	5.57%
<i>Graduates in Minor</i>					
Psychological Science	54	44	48	47	59
Neuroscience, Behavior, Cognition	0	0	3	8	6
Disability Studies	10	11	13	39	79

Data was unavailable for graduation rates, time to degree completion, D-F-W Rates, and gender.

<i>Grad & Continuing Ed: Undergraduate</i>	AY 2014	AY 2015	AY 2016	AY 2017	AY 2018
Total Enrollment in Psych Sci classes	359	319	282	273	261
Total Enrollment in All Classes	4,015	4,103	3,750	3,510	3,835
Psych Sci Percent of total enrollment	8.94%	7.77%	7.52%	7.78%	6.81%
Graduates in the Minor	4	0	0	0	0
Number of Minors	5	1	3	4	8

Data was unavailable for graduation rates, time to degree completion, D-F-W Rates, and gender.

Currently (AY18) the Psychological Science department has 215 majors, or 5.0% of all declared majors at Fitchburg State. The overall number of psychology majors has been stable over the past 5 years.

Currently, there are 44 Psychological Science students who are pursuing the Applied Psychology concentration, and 18 students who are pursuing the Cognitive Science concentration. There are three students who are pursuing the Developmental concentration, which is no longer being offered to incoming students.

Total enrollment in Psychological Science classes in AY18 was 2226 filled seats or 6.5% of overall enrollment at Fitchburg State. This total enrollment was higher than our percentage of overall majors (5.0%), and demonstrates that psychology classes are serving a large number of non-majors. For example, over 90% of students in Intro to Psychological Science (PSY 1100) were non-majors. In addition, psychology classes are also required for a variety of other majors including, but not limited to, human services, criminal justice, education, and nursing.

Of our 215 majors, 38 students are black or African American, 31 are Hispanic, 10 are “more than one” race/ethnicity, and 132 are white. Majors in Psychological Science are more diverse (38.6%) than the institutional average (30.0%).

There are currently 186 minors (approximately half of whom are Human Service and Interdisciplinary Studies majors) who are pursuing a minor in Psychological Science. There are 31 students who are pursuing a minor in Neuroscience, Behavior, and Cognition.

Enrollment caps for classes include:

- 16 for Psychology of Human Relations
- 20 for Research classes (RDA and Research Methods) and 4000 Level courses
- 25 for Online/Hybrid classes and 3000 Level courses
- 30 for 2000 lecture-based classes
- 33 for Introduction to Psychological Science.

The average class size (Fall 2018) was 25.5 and, on average, over 95% of the available seats in psychology classes are filled. The number of online courses offered by the department per year has ranged from 20 to 30. In AY18, the department offered 10.2% of the online courses for the university. The department offered hybrid courses, with 2 sections first being offered in AY17, growing to 4 in AY18.

For GCE courses, undergraduate enrollment in psychology classes was 261 in AY18 or 6.8% of total enrollment. This represents a similar proportion to psychology seats in the day program. The number of minors in the GCE program was fairly low – 8 in AY18.

2. Minimum Qualifications of Students

In addition to the degree requirements for the University, students in the Psychological Science major must earn a 2.0 or higher in PSY 1100 Introduction to Psychological Science, MATH 1700 Applied Statistics, PSY 2000 Research Design and Analysis I, and PSY 2100 Research Design and Analysis II.

iii. Faculty

See the tables in Appendices A and B for the breakdown of faculty rank, diversity data, and a summary of faculty teaching, scholarship, and service. In brief, for 2018-2019, the Psychological Sciences department consists of 11 full-time tenured/tenure-track faculty with one non-tenure-track faculty member teaching a 3/3 load.

1. Full-Time Equivalencies

Professors have received course releases for serving as Coordinators (Psychological Science Department, Counseling Department, Institutional Review Board, Undergraduate Conference for Research and Creative Practice) and for conducting research. Also, as part of their day course load, professors have taught honors courses, graduate courses, Instrumental Arts Orchestra, and the First-Year Experience course. The level of student demand for our courses both within and outside the major as well as the number of University-wide services provided by our faculty have led to increases in the department's number of sections offered and, therefore, our reliance on adjunct faculty. A table showing the numbers of sections taught by full-time versus part-time faculty members since Spring 2015 (the last semester for which we have data) is available on page 28 in the section related to Faculty—Teaching Responsibilities and Distribution.

2. Diversity

With respect to diversity, men are under-represented in the faculty (4 men; 8 women) and there is a lack of ethnic diversity. Allowing for the selection of more than 1 category resulted in self-reported rates of 91.67% White/Caucasian, 8.33% Hispanic/Latino, and 16.67% of International/Other.

3. Faculty Scholarship

Faculty scholarship interests show significant variability in topics and areas, which is key in providing relevant research experiences to undergrads to prepare them for their career trajectories. Scholarship interests are broad and varying including, but not limited to, cyberbullying, health literacy, opioid-use reduction, music and the brain, and hormones and learning. (Please see Appendices C and F as well as faculty vitae.) Faculty are also heavily involved in departmental service (e.g., Curriculum Committee, Research Oversight) to university service (e.g., All University Committee, First Year Experience, IRB), to service to the discipline (e.g., NSF grant reviewing, Journal Editorial Boards).

iv. Staff Support

The Psychological Science department would greatly benefit from having a full time, 12-months per year Administrative Assistant. Currently, our Administrative Assistant works 10-months per year, leaving campus at the end of the first week in June and returning mid-August. When she returns, she is nine weeks behind the departments that have 12-month Admin Assistants.

A full time, 12 months per year, assistant is needed for our department. Listed below are some of the problems we encounter during the nine weeks our Assistant is off campus:

- Our Purchasing Department sets a purchasing deadline for merchandise for mid-April with normal purchasing activities resuming at the beginning of the new fiscal year on July 1. This means the Psychological Science department has limited purchasing activity taking place from mid-April to mid-August when our Assistant returns. This is also true for purchases made with the department's JP Morgan procurement card. The assistant is not here to log into her JP Morgan account to reconcile charges so we do not use the procurement card while she is off campus.
- There is no one available to assist with travel arrangements and required travel paperwork during the nine weeks she is not on campus.
- The Assistant is not here to close out the FY budget which ends June 30. There is no final review done.
- She does not have access to the approved budget for the new FY until she returns in August at which time she needs to familiarize herself with any changes made during her absence and correct any errors made.
- Most changes to procedures used, updates to software and new software are made during the summer and training is provided to those on campus. Our assistant has to attend the training when she returns in August which puts her further behind her counterparts.
- Advisors are assigned to new incoming students during the summer. Our students do not get their advisors assigned until late August/September.
- The Assistant is not here to assist new faculty with any questions, office space, supplies, phone, business card, etc. She has minimal time to take care of this before the new faculty come onboard at the end of August.
- Any changes made in the summer to course schedules, room assignments, faculty schedules, and curriculum are done without her knowledge which means she must review everything when she returns to familiarize herself with all changes.
- Many AUC proposals do not get final confirmation until after she leaves in June so she is not available to assist with changes and she again must review everything when she returns to make sure she is up-to-date on changes.
- She is not here to book needed room reservations for the fall.
- Changes to the University Catalog are due in August and she is not here to assist.
- There have been times when adjuncts for the fall are hired during the summer. The assistant is not here to assist with scheduling meetings with possible new adjuncts nor is she here to update the adjunct request form which is required for the hiring process.
- Website updates must wait nine weeks to be made.

There is a definite lack in continuity in our department due to this nine week lapse in Administrative Support.

v. Resources

1. Budget

The Psychological Science department has a total operating budget for FY19 of \$9704, of which \$4400 is devoted to faculty travel. The department is given \$400 for travel for each faculty member. The department's operating budget (excluding travel) was increased from \$3804 in FY17 and FY18 to \$5304 in FY19. See the Appendix D for the breakdown of the categories for the FY19 budget.

2. Lab Space

Student research space is attached to the student lounge and includes two, small interview spaces that are primarily used for Research Design classes. Faculty have access to separate research space which is accessible only to faculty and their students running research projects. The department chair is responsible for granting research space to faculty and their students based on active research programs. This research space consists of 11 different rooms, some with one-way mirrors and/or video monitors and projectors. Appendix D includes a list of the lab equipment purchased as part of the formation of the lab space. There are multiple computers, tables, and equipment needed for conducting psychological research. All of this equipment will likely need to be serviced or replaced within 7-10 years from the time that it was installed/purchased. One piece of lab equipment needed by faculty but has yet to be allocated funds for purchase is eye-tracking instrumentation.

3. Clinical Skills Rooms

The department shares clinical skills rooms with Behavioral Sciences and Graduate Counseling. These rooms are equipped with a one-way mirror as well as projectors, cameras, and speakers to allow a small class to observe an interpersonal skills interaction. As with the lab equipment, the equipment in this room will likely need to be serviced or replaced within 7-10 years of its original installation date.

4. Technology

In terms of technology, the department utilizes SONA, which is a software program used to recruit and track research participants. The Research Oversight Committee, a Psychological Science departmental committee, handles the administration of SONA including adding studies to the system, adding instructors to the system, verifying the use of alternative assignments, running end-of-year reports for faculty, and addressing student issues throughout the year. SONA was purchased this year through IT funds. In 2017-2018, it was used for recruitment for 14 studies, involving 62 student researchers. One of those studies was conducted online, and the system was used for recruitment as well as data collection. Those studies provided 808 possible research timeslots to 212 registered research participants. SONA recorded 237 research credits granted. Most research projects granted 1 research credit for each participant; one project granted 2 research credits. In total, SONA managed 144 hours of research experience over the past year.

Faculty also utilize SPSS in their own research and classes.

We would like to purchase a Woodcock-Johnson IV Complete Kit (Achievement Form A and Cognitive) with Case. The WJ-IV is the gold standard test employed by school psychologists in the field. It contains co-normed cognitive, achievement, and oral language test batteries, a feature that is unique to the WJ and allows for deeper discussions of the statistical reliability and validity of tests used in educational decision making. Students taking PSY 3150 Psychological Science in the Schools, which places a strong emphasis on the role of the school psychologist,

would benefit greatly from access to this test battery. Students would gain exposure to standardized testing procedures and large battery intelligence and achievement testing in a manner that is not possible without access to the test and its manuals (a critical experience for students considering school psychology as a career path). In addition, the WJ-IV is an excellent research tool, as it is designed for administration to individuals from ages 2 years through 90+ years. Most subtests can be administered in 10 minutes or less, and the co-norming of the batteries allows for the use of inter-ability comparisons as well as the development of novel clusters of subtests for research purposes.

5. Miscellaneous

Faculty have access to a shared microwave and refrigerator but there is no sink or breakroom available to faculty or staff, nor is there a dedicated space in our immediate area for meetings large enough to accommodate the department.

b. Program Processes

i. Curriculum

1. Process for Curriculum Development

Prior to the fall of 2015, the Psychological Science major was a part of the Behavioral Sciences department. This department also included the Sociology major, the Human Services major, and the Criminal Justice major. Under this structure, all psychological science faculty met as a curriculum committee once per month. Any changes to the psychological science major were proposed, discussed and voted on within this committee. Any curriculum change approved by this committee was then brought to the Behavioral Sciences department meeting for departmental approval. If approved, the changes were submitted to the All University Committee for approval.

In the fall of 2015, Psychological Science became its own department. From the fall of 2015 until the spring of 2017, the department worked on establishing policies and identifying standing committees. During this time, all full-time members of the Psychological Science department served on the curriculum committee. Curriculum changes were proposed and voted on within this committee. Approved changes were then forwarded to the All University Committee.

Beginning in the fall of 2017, Psychological Science faculty had the option of choosing the standing committees (which includes curriculum) on which they would like to serve. The curriculum committee is now much smaller (5 members in AY 17/18 and 4 members in AY 18/19). Under the current structure, the curriculum committee elects a chair in the fall who is responsible for scheduling meetings and coordinating the proposals for change. The curriculum committee meets once a month to discuss any new business. Proposed changes are voted on and approved changes are then brought to the full department for discussion.

2. Recent Activity

A major restructuring of the psychology curriculum was implemented in the fall of 2016. Some of the more substantial changes included:

- Changing the introductory prerequisite for most Psychological Science courses from either Introduction to Psychological Science (General Psychology) or Lifespan Development (Human Growth and Development) to only Introduction to Psychological Science.
- Changing the level of Biological Psychology from a more advanced 3000 level course to a more general 2000 level course. In addition, this course was added to the group of courses required for all psychological science majors.

- Adding a minimum grade requirement of a 2.0 for Introduction to Psychological Science, Research Design and Analysis I, and Research Design and Analysis II. Psychological science majors must meet these minimum grade requirements to progress in the major.
- Adding a one-credit laboratory course as a requirement for the Psychological Science major.
- Adding a capstone course as a requirement for the major.
- Changing the structure of the elective courses to include a set of foundation courses and a set of general electives. All majors are now required to take 7 courses (beyond the set of required courses). At least four of these seven courses must be foundation courses and the remaining three courses can be either foundation or general elective courses.
- Adding concentrations in Cognitive Science and Applied Psychology for students with particular areas of interest. These concentrations include more specific requirements for foundation and general elective courses.

A second change to the Psychological Science curriculum was the restructuring of the internship program. Prior to the fall of 2015 (when Psychological Science became a department), Psychological Science internships were subsumed within the Behavioral Science Internship program under the direction of faculty from all majors within the Behavioral Sciences department. When the Psychological Science department was established, the internship option was removed from the curriculum for a year while the Psychological Science faculty established a new internship program specifically for Psychological Science majors. The internship option was added back to the curriculum in the fall of 2017. More detailed information regarding the internship program can be found on the Psychological Science webpage

<https://www.fitchburgstate.edu/academics/academic-departments/psychological-science-dept/>

Because the Psychological Science curriculum is still relatively new, curriculum activity over the past two years has focused on minor adjustments to the new curriculum such as a course name change and adjustments to specific course prerequisites.

3. Curriculum Requirements

Requirements for the Psychological Science major are divided into three groups: a set of required prerequisite courses, a set of required core courses and a set of required foundation/elective courses. A minimum of 39 credits in psychological science is required to complete the major. The prerequisite courses do not count toward these required credits.

Required prerequisite courses include:

- Introduction to Psychological Science
- Applied Statistics

Required core courses include:

- Research Design and Analysis I
- Research Design and Analysis II
- Biological Psychology
- Psychology Laboratory Course
- History and Systems
- Capstone Course

Required foundation/elective courses include:

- Four foundation courses (must include at least one of the following: Sensation and Perception, Psychology of Learning, Motivation, or Cognition)
- Three additional foundation or elective courses
- At least one of the courses in the major must have a developmental focus

A detailed list of these requirements and the courses that are offered within each group can be found in the major requirements document located on the Psychological Science department webpage (<https://www.fitchburgstate.edu/academics/academic-departments/psychological-science-dept/>).

4. Curriculum Requirements for Concentrations

Students who choose a concentration in Cognitive Science must take five foundation courses including Sensation and Perception, Cognition, and Cognitive Neuroscience. The remaining two courses in the foundation/elective course area can be either foundation courses or elective courses.

Students who choose a concentration in Applied Psychology must take Psychology of Learning, either Psychology of Personality or Social Psychology, two Applied Psychology courses, one Advanced Applied Psychology course, one additional foundation course, and one foundation or elective course.

5. Four year Plans of study, Two-year course Rotations, and Departmental Website (handbook)

The department maintains a webpage <https://www.fitchburgstate.edu/academics/academic-departments/psychological-science-dept/> that contains the information that had previously been provided in a handbook. Links to the major requirements, four year plans of study, and course offerings and rotations can all be found on the website.

In addition to these documents, the website contains links to information on career opportunities, internship information, professional organizations, Psi Chi (honor society), and the Psychological Science club.

6. Curriculum Trends in the Discipline

One important trend within the field of Psychological Science is the increased importance of understanding how the physiology/biology of the brain relates to human behavior and mental processes. This trend is reflected in our new curriculum with the addition of Biological Psychology as a core requirement for both majors and minors. As noted in AUC 94 (AY 2015-2016), “requiring students to take this course helps them to better understand material presented in virtually every other Psychological Science course.”

A second trend within the field of Psychological Science is the increased importance of offering students a capstone experience. This trend is reflected in our new curriculum with the addition of a capstone requirement. As noted in AUC 94 (AY 2015-2016), the capstone requirement allows students “to develop academic skills, professional skills and knowledge and serves as a bridge to professional careers and/or graduate study.” One option to fulfill the capstone requirement is an Advanced Seminar in a specific topic area of Psychological Science. Since the implementation of the new curriculum in fall 2016, 64 students have participated in Advanced Seminars. (An additional 26 students are currently registered for an Advanced Seminar in spring, 2019). The faculty members who offer the courses choose the topics of the seminars to match with their expertise and research interests. Seminars have focused upon the following topics: Gender Identity Development; Hormones and Cognition; Psychology of Music;

Prevention Science; Child Trauma and Cognitive Development; and Infant Cognitive Development.

7. Learning Experiences

The capstone requirement within our new curriculum also encourages multiple types of learning experiences. These individualized learning experiences “allow professors to work with students to better meet the needs of individual students and help students fulfill their fullest academic potential” (AUC 94). These experiences include Internship, Research Practicum, Teaching Practicum, Independent Study, and Directed Study. Data regarding student involvement in individualized learning experiences has been collected since Psychological Science became an independent department in fall 2016.

Learning Experience	Fall 2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Total F16 - F18
Internship	2	7	2	2	0	13
Research Practicum	0	3	2	5	4	14
Independent Study	5	6	3	5	2	21
Directed Study	0	0	0	0	1	1
Honors Thesis	2	2	1	1	2	8

From fall 2016 through fall 2018, students have been involved in 14 Research Practica, 21 Independent Studies, and 1 Directed Study. The topics of these important individualized learning experiences include research on cyberbullying, oral contraceptive use, health literacy, and exercise and music appreciation. They also include independent study in areas such as self-imposed behavior change, art therapy, ADHD and Music, parenting and behavior change, data analysis, and child trauma and gender. Furthermore, faculty in Psychological Science have supervised eight semesters of Honors thesis work (for five individual students).

Completing an internship in Psychological Science is also an important learning experience that meets the capstone requirement. The internship program is described in detail in the “Recent Curriculum Changes” section (above). Since fall 2016, 13 students have completed an internship. Placements have included working in guidance departments at local schools, research laboratories at UMass Medical School focusing upon obesity prevention or normative development in preschoolers, agencies that provide services for individuals with Autism Spectrum Disorder, and an international site focused upon research in neuropsychology.

Participation in these individualized learning experiences is a noted high-impact practice by the APA and American Association of Colleges and Universities (AAC&U) (<https://www.aacu.org/leap/hips>). These individualized experiences help our students in the increasingly competitive graduate school application process. They also allow students to apply foundational knowledge in Psychological Science, to develop important practical skills, and to network in ways that could help with their searches for post-graduate employment.

8. Course Delivery Methods

The number of online and hybrid psychological science courses has been increasing over the period of this self-study. These courses now account for almost 20% of the total number of courses offered. Both an Improvement in technology and an increase in the number of faculty members offering online and hybrid courses have contributed to this increase. These online and hybrid courses are also popular with students. Online courses are often the first to fill during the registration period.

The table below contains information on the number and percentage (in parentheses) of online and hybrid courses offered by the Psychological Science department from fall 2013 through spring 2018.

Semester	Number of Online courses	Number of Hybrid courses
Fall 2013	2 (4.4%)	0
Spring 2014	3 (9.4%)	0
Fall 2014	3 (6.8%)	0
Spring 2015	2 (5.1%)	0
Fall 2015	4 (9.5%)	0
Spring 2016	4 (9.3%)	0
Fall 2016	7 (6.3%)	0
Spring 2017	5 (11.4%)	2 (4.5%)
Fall 2017	7 (14.6%)	1 (2.1%)
Spring 2018	5 (11.4%)	3 (6.8%)

9. Concentrations and Minors

a. Concentrations

In our new curriculum, Psychological Science majors can choose from one of two concentrations: Cognitive Science or Applied Psychology. A concentration is not required, but many students do take advantage of this option. A detailed description of the two concentrations is presented in Section 2a.iv. A table containing the number of students enrolled in each concentration is presented below. (This table only contains data for the new curriculum AY17 and AY 18.)

	AY 17	AY18
Applied Psychology Concentration, B.A.	0	0
Applied Psychology Concentration, B.S.	18	44
Cognitive Science Concentration, B.A.	0	0
Cognitive Science Concentration, B.S.	16	18
Psychological Science (no concentration), B.A.	2	1
Psychological Science (no concentration), B.S.	162	147
Total Majors	215	216

A rise in the number of students in these concentrations (most notably the Applied Concentration) occurred between AY 17 and AY 18 and we expect this trend will continue for the next several years as the curriculum becomes better established.

It is clear that most students select the option of a Bachelor of Art degree rather than a Bachelor of Science degree. The only difference between these degrees is that students completing a Bachelor of Art degree are required to have foreign language proficiency at the intermediate level. Students are encouraged to pursue foreign language by their advisors but very few students express interest.

b. Minors

The Psychological Science department offers the Psychological Science minor and helps maintain the Neuroscience, Behavior, and Cognition (NBC Minor), an interdisciplinary minor involving courses in biology, psychological science, and philosophy. Students majoring in Psychological Science are eligible to enroll in this minor.

i. The Psychological Science Minor

1. Curriculum

The Psychological Science minor requires 21 semester hours of courses in psychological science. Three of these courses: Introduction to Psychological Science, Biological Psychology, and Research Methods in Psychology are required. The remaining four courses (12 credits) are electives. A detailed description of the minor including available electives can be found on the department webpage <https://www.fitchburgstate.edu/academics/undergraduate/undergraduate-day-programs/all-minors/psychological-science-minor/>.

The requirements for the minor were also changed when the major curriculum was revised. Biological Psychology was moved from an elective course to the list of required courses. Although this change resulted in the department needing to offer more sections of this course each semester, we felt it was necessary to ensure that any student minoring in Psychological Science have a good understanding of the relationship between the biology/physiology of the brain and human behavior, as explained in the Trend section. The other curriculum change to the minor involved allowing students to choose electives from all available courses rather than requiring

that students choose a certain number of courses from foundational areas. This change allowed students more flexibility in choosing electives.

2. Enrollments

The number of students with declared minors in Psychological Science is substantial and has increased slightly over the past several years. The table below provides information on the number of minors from AY14 through AY18.

	AY14	AY15	AY16	AY17	AY18
Declared Minors	166	158	173	201	186

The large number of minors benefits the department in a couple of ways. First, it increases demand for our courses, which enables us to offer a relatively large variety of elective courses without too much concern that they will be cancelled due to low enrollments. A second benefit of the large number of minors is that it increases the diversity in our courses. Students from different majors bring different perspectives to each course, allowing for richer discussions of course material.

ii. Neuroscience, Behavior, and Cognition (NBC) Minor

1. Curriculum

The NBC minor is an interdisciplinary program (min. 18 credits) for which students investigate the biological basis of behavior, consciousness, perception, and cognition. There are four required courses, two in Biology (General Bio I or II and Neuroscience) and two in Psychological Science (Intro to Psychological Science and Cognition). In addition, students must take two elective courses from a list of biology, philosophy, and psychological science courses. Psychological Science courses that satisfy requirements for the Psychological Science major cannot fulfill requirements for the NBC minor. A detailed description of the minor including available electives can be found on the department webpage

<https://www.fitchburgstate.edu/academics/undergraduate/undergraduate-day-programs/all-minors/neuroscience-behavior-and-cognition-minor-new-in-fall-2012/>

2. Enrollments

The number of students with declared minors in NBC has steadily increased over the past five years.

	AY14	AY15	AY16	AY17	AY18
Declared Minors	18	20	22	27	31

These numbers are consistent with an increased interest in the field of Neuroscience among college students nationwide.

c. Relationship of Minors to Psychological Science Mission and Vision

An important component of our department mission is to provide students the opportunity to "...welcome the unique challenges and contributions of psychological inquiry and interdisciplinary collaboration in the pursuit of understanding human thoughts, behaviors, and emotion." Additionally, we aim to have "... students develop the skills and dispositions necessary to becoming discerning, analytical thinkers who value the ethical and responsible application of scientific methodologies and findings to the investigation of human nature and the improvement of the human condition."

The required courses in Research Methods and Biological Psychology for Psychological Science minors and the interdisciplinary nature of the NBC minor serve to meet these objectives.

ii. Students

1. Learning Expectations

As noted previously, during the time since our last self-study, our program has established itself as an independent department within the Division of Health and Natural Sciences. This organizational change was followed by major revisions to the Psychological Science curriculum in 2016 (as described in section 2a). Both of these changes reflect the learning expectations of the program; our goal is "to educate students in the scientific study of mind and behavior" (FSU catalog). More specifically, our required Research Design and Analysis (RDA I and II) sequence reflects the program's emphasis on developing important methodological and analytical skills. The inclusion of a required laboratory course also emphasizes the scientific study of mind and behavior by allowing students "to learn and make use of multiple techniques, methods and analyses that psychologists have developed to study many facets of mind and behavior" (AUC 94). Establishing Biological Psychology as a required course sets the learning expectation that "all students have a basic understanding of the physiological underpinnings of psychology" (AUC 94).

The program's goal that students develop both breadth and depth is reflected in the structure of the curriculum (e.g., prerequisite courses, foundational courses and electives, and the opportunity to pursue a concentration in either Cognitive Science or Applied Psychology). Furthermore, the program's grade requirements for Introduction to Psychological Science, Applied Statistics and the RDA I and RDA II sequence serve as a clear marker for our expectation that students sufficiently learn and master essential concepts prior to taking increasingly more advanced courses in the Psychological Science major. Specifically, students must earn the grade of 2.0 in each of the aforementioned courses. Finally, the requirements of History and Systems, at least one 3000 level course, and a capstone experience highlight the expectation that students should be working towards more advanced levels of understanding and synthesis, as well as the application of their knowledge, towards the culmination of their major in Psychological Science.

2. Learning Supports and Retention Initiatives

There are a number learning supports available to Psychological Science majors. These learning supports also serve as mechanisms to retain our majors.

Retention Rates	AY14	AY15	AY16	AY17	AY18
Psych Science Major Retention Rate	58.14%	43.75%	65.63%	66.67%	57.14%
Changed Psych Science Major Retention Rate	13.95%	25.00%	9.38%	9.09%	2.86%
Institutional Retention Rate in Major	62.15%	58.75%	62.36%	66.09%	62.72%
Institutional Changed Major Retention Rate	15.19%	16.11%	12.55%	12.40%	10.65%

The AY14 – 18 trend data indicate that the retention rates within Psychological Science have fluctuated but generally risen from a low of 43.75% in AY15 to a high of 66.67% in AY 17. Institutional retention rates within a major have also made gains from 62.15% in AY14 to 62.72% in AY18.

There are many supports and retention initiatives within both the department and campus-wide. Within the department, each student has an advisor within the program. If students wish to declare a concentration, efforts are made to assign students to an advisor that possesses expertise in their declared concentration. This helps to facilitate effective advising and support for students as they develop career and graduate school plans. Advisors and faculty members regularly consult with each other regarding student progress. Faculty members make use of the resources available in our library, including having embedded librarians within courses and requiring students to consult with librarians on projects. Most advisors within the department make use of the Student Success Collaborative (SSC) platform; one faculty member serves as a faculty liaison for the SSC platform.

The structure of our curriculum also serves as an important avenue to support student learning. Although the sizes of our courses has risen over the past several years, the program strives to maintain important individualized learning experiences for our students. The laboratory courses “allow professors to work closely with and foster students’ academic skills while bringing them to higher levels of academic achievement” (AUC 60). The capstone requirement, which includes Advanced Seminar, Internship, Independent Study and Research Practicum, as well as the electives Teaching Practicum and Directed Study, are known high-impact practice according to the APA and AAC&U. These high-impact experiences afford students the important opportunity to apply their understanding of psychological science. The experiences also support student learning by serving as an important “bridge to professional careers and/or graduate study” (AUC 60). Regarding career planning, one of our faculty members, in conjunction with a faculty member in the Behavioral Sciences department, developed a series of workshops for students.

Our faculty also utilize campus-wide resources to help support and retain our students. Faculty members and advisors often consult with Disability Services, Counseling Services, and the Dean of Student Affairs with respect to maximizing student success or with any concerns. Faculty complete Community Assessment and Risk Evaluation (CARE) reports regarding individual students for whom they have academic, social, or health concerns. Students can also pursue academic tutoring for Psychological Science courses through the Tutor Center on a one-on-one basis (when a tutor for a specific course is available) or academic coaching through the career counseling and advising center. A faculty member in our department has been an integral member of the team developing the First-Year Experience (FYE) Seminar. This course,

which focuses upon preparing students for a successful college career, was offered to incoming students in fall, 2018. According to the AUC proposal for the FYE (AUC 160), "at least eight faculty members (in Psychological Science) have been identified as potential instructors, pending professional development" (AUC 160).

iii. Faculty

1. Teaching Responsibilities and Distribution

The teaching load for full-time faculty is four courses per semester, fall and spring. Faculty may choose to teach evening, winter and summer classes through the Department of Graduate and Continuing Education (GCE). As detailed below in the Alternative Responsibilities section, multiple faculty members in the department have alternative responsibilities that provide course release time. This release time allows faculty to contribute to multiple university initiatives but also forces the department to rely on increasing numbers of adjunct faculty in order to meet the demands of both our own program as well as other programs we serve. Overall, faculty alternative responsibilities total almost the equivalent of half of a full-time faculty member. Below is a table showing the numbers of sections taught by full-time versus part-time faculty members since Spring 2015 (the last semester for which we have data):

Numbers of 3-4 credit sections offered	SP15*	FA15 ⁺	SP16 ⁺	FA16	SP17	FA17	SP18
Full-Time Faculty 3-4 credit sections (percentage)	39 (100%)	35 (83%)	41 (95%)	39 (85%)	41 (91%)	34 (74%)	33 (75%)
Part-Time Faculty 3-4 credit sections (percentage)	0 (0%)	7 (17%)	2 (5%)	6 (15%)	4 (9%)	12 (26%)	11 (25%)
Total Number of 3-4 credit sections	39	42	43	45	45	46	44

*the department had two 1-year faculty members who are counted as full-time

*the department had a 1-year faculty member who is counted as full-time

2. Advising Responsibilities

Full-time faculty advise the Psychological Science majors. Each faculty member has approximately 18-22 advisees. As noted previously, advisees are typically assigned to advisors who possess expertise in their chosen concentrations (Cognitive Science or Applied Psychology), should students elect to have a concentration. Majors who do not elect a concentration may be assigned to any faculty advisor. The Chair of the department meets with students who transfer into Psychological Science from other majors and with students who declare a minor in Psychological Science. Minors in Psychological Science are not assigned a specific advisor within the program but the Chair typically informs them that she is available at any time for minor advising. Advisors meet with advisees each semester during the three-week advising period prior to registration. In order to ensure that students meet with their advisors, registration pins are accessible to advisors, but not to students, on the Degree Works system. Advisors distribute registration pins after meeting with a student regarding course selections. Many advisors meet with their advisees on a more regular basis to provide guidance on career and graduate school plans, to discuss issues that may arise during the semester (e.g., needing to withdraw from a course, general academic concerns), and to share successes (e.g., qualifying for a honors society, securing an internship or job position).

3. Alternative Responsibilities

As stated earlier, a number of faculty in the Department of Psychological Science have alternative responsibilities. One faculty member is the Chair of the Graduate Counseling Program and teaches one course in the graduate program per semester as part of their teaching load. Another faculty member is Chair of the Institutional Review Board. Another has regularly taught one or two sections of a course in the University's Honors Program as part of their teaching load. One faculty member is the conductor of the Fitchburg State Community Orchestra (part of teaching load) and is Director of the Community Music Lesson Program. Another faculty member teaches a First Year Experience seminar as part of her teaching load. One faculty member serves as a Student Success Collaborative Fellow (SSC), working to increase awareness and use of this platform. These alternative responsibilities represent important service to the Fitchburg State University community as well as providing opportunities for the department to engage with important University programs and initiatives.

4. Professional Development Initiatives

Faculty within the Department of Psychological Science have been involved in a broad range of professional development activities. One primary source of professional development for members of our department is the Center for Teaching and Learning (CTL). Since our last self-study, several faculty have participated in programs sponsored by the CTL including summer institutes and workshops on course redesign, inclusive teaching, service learning, and syllabus redesign as well training on Turning Technologies. In addition to attending programs at the CTL, faculty have presented at the CTL in areas related to professional development. These include presentations on fostering critical thinking and reading, developing metacognitive skills, teaching to transfer, trigger warnings and micro-aggression, and course redesign and assessment. Our faculty also regularly attend Fitchburg State faculty development days in the fall and spring, and one has been the recipient of a CTL grant at development day. Others regularly attend the GCE development days that are offered every two years.

Faculty also have participated in a number of off-campus professional development activities. They have completed coursework in statistical programs (R) and received training in salivary data collection and high-sensitivity immunoassay. They have participated in key professional development initiatives on assessment, infusing critical thinking into coursework, promoting success in STEM courses, and addressing food insecurity on college campuses. They have attended conferences and meetings related to the teaching of psychology and to areas of specific expertise (e.g., MA STEM Summit, Society for Research in Child Development, Association of American Colleges and Universities, New England Faculty Consortium, New England Psychological Association, Association for Heads of Departments of Psychology, Memory Quirks: The Study of Odd Phenomena in Memory, Association for Counselor Education and Supervision, Association for Psychological Science). In addition to attending the aforementioned meetings, faculty have contributed to the professional development of others by presenting on topics such as making z-scores relevant to psychology students, teaching in Honors, handling difficult situations as the head of a department, engaging and managing students online, and psychodynamic approaches in counseling. A faculty member received professional development grants for percussion instruction and advanced conducting instruction. Another faculty member served as part of a delegation to explore study abroad opportunities in Costa Rica.

5. Faculty Retention Initiatives

Within the Department of Psychological Science, faculty retention initiatives are informal and implicit. Our new office and research space is a vast improvement from the physical space that we occupied at the time of our last self-study. In addition to providing the physical space to conduct research, the location of our offices on the same floor in McKay affords faculty with opportunities to connect and communicate. This provides a collegial atmosphere and allows faculty to seek each other out for advice or conversation. The ability to engage with students in research through Research Practicum and Independent Studies provides opportunities for faculty to simultaneously teach and engage in scholarship. For some, these individualized teaching and research opportunities are an important motivator to remain at Fitchburg State.

iv. Quality Improvement Initiatives

During the time since the last self-study, the program has been involved with two key quality improvement initiatives. The first is the major changes to the curriculum as described in the earlier section on Program Processes and implemented in fall 2016. As noted in AUC 94, these changes resulted “from a major evaluation of the program’s recent comprehensive self-study and the outside reviewer’s comments and suggestions of the self-study and the site visit.” The goals of the curriculum change were to “strengthen the scientific focus and training of majors; help students better understand the relevance of scientific inquiry to all Psychological Science courses; allow students greater flexibility in developing meaningful, comprehensive programs of study to meet individual academic and career goals; create concentrations that reflect the overlapping academic strengths of the faculty and many students’ academic interests; foster greater faculty/student interactions to enhance student learning; and create a more effective model of academic advising” (AUC 94).

The second quality improvement initiative that has occurred since our last self-study is significant upgrades to our physical space. In his comments, the outside reviewer for the 2014 self-study described our office space as “the worst he had seen in all of the reviews that he had done.” In 2016, the department moved from Percival Hall (where conditions were outdated, research labs were not truly usable, and faculty offices were scattered throughout three floors of the building) to McKay. This move has resulted in all faculty offices on one floor. There are also new classrooms, research labs, adjunct offices, and spaces for students (lounges and study space). The environment has resulted in many more opportunities for faculty to communicate with each other. Students appear to be more present in the department, and they are often seen studying in various areas throughout the floor. A number of faculty, at least four this semester, have been utilizing the laboratories in McKay for research. Additional equipment is needed to render the labs fully functional for all types of research. However, the departmental spaces, as a whole, are tremendously improved from our previous facilities in Percival Hall.

c. Program Outcomes

i. Program

1. Graduating Student Survey

The graduating student survey data summary (2014-2017) is unreliable. It indicates that some questions were repeated (word for word) with different results obtained the second time the questions were asked and therefore that data will not be discussed here.

ii. Student

1. Student Scholarly and Creative Productions

Students have had opportunities to conduct research with faculty members in the psychological science department. Three students have presented their research projects in poster and oral presentations at Massachusetts Statewide Undergraduate Research Conference, seven students have presented at the Undergraduate Conference for Research and Creative Practice at Fitchburg State University, and one student has presented at the Fitchburg State University Science Symposium.

Faculty have submitted work involving multiple student authors to several peer-reviewed academic journals as well as presenting two posters and one paper involving students at national and international conferences. A full listing of student/faculty presentations and publications can be found in Appendix E.

2. Learning Outcomes and Assessment

As discussed earlier, the Psychological Science program made major changes to the curriculum that went into effect at the start of AY 2016-2017. This change in curriculum resulted from a critical evaluation of the program's previous self-study and the outside reviewer's comments and suggestions. The redesigned curriculum was "designed to strengthen the scientific focus and training of majors; help students better understand the relevance of scientific inquiry to all Psychological Science courses; allow students greater flexibility in developing meaningful, comprehensive programs of study to meet individual academic and career goals; create concentrations that reflect the overlapping academic strengths of the faculty and many students' academic interests; foster greater faculty/student interactions to enhance student learning; and create a more effective model of academic advising" (AUV 94). Once the program was initiated, for purposes of assessment, we identified three primary Student Learning Outcomes (SLOs) based on the American Psychological Association (APA) Learning Outcomes:

APA Goal 1. Knowledge Base in Psychology

1.2 Develop a working knowledge of psychology's content domains

APA Goal 2. Scientific Inquiry and Critical Thinking

2.2 Demonstrate psychology information literacy

2.2a Read and summarize complex ideas accurately, including future directions, from psychological sources and research

APA Goal 4. Communication

4.1 Demonstrate effective writing for different purposes

4.1a Construct arguments clearly and concisely using evidence-based psychological concepts and theories

4.1c Use grammar appropriate to professional standards and conventions (e.g., APA writing style)

During AY 2016-2017, members of the assessment committee met to identify and create assessment rubrics for the identified SLOs. In order to assess APA Goal 1, the committee selected the Psychology ACAT but learned at the end of the year that money was denied for the purchase of the standardized tool. The following year, the committee decided to focus on curriculum mapping to evaluate Goal 1 and began working on creating a mapping rubric. Work is continuing on that rubric with plans to begin mapping at the end of the current academic year.

To assess APA Goals 2 and 4, the assessment committee created a Capstone Assessment of Research Literacy. This capstone assessment tool was developed to provide a means of assessing a core set of programmatic learning outcomes that all majors should be able to demonstrate as a result of their learning experiences over the course of the major. Practically, we have selected the capstone options as a point of assessment due to their placement at the end of the major. In addition, because students are typically responsible for developing a paper or presentation requiring the analysis and synthesis of a set of empirical research articles in these experiences, the capstones provide us with a unique opportunity to assess work products containing common mastery elements despite varied etiologies.

This capstone assessment tool was not intended to be used as a method for assessing student learning outcomes within the capstones themselves. Rather, this tool was designed to provide a summative measure of student mastery of our programmatic learning outcomes only. Target benchmarks for this assessment were adopted from the APA Guidelines for the Undergraduate Psychology Major Version 2.0 (2013). The Psychological Science department has determined that, at minimum, students graduating with a major in Psychological Science should be able to demonstrate the following APA benchmarks, regardless of concentration within the major:

2.2A Read and summarize complex ideas accurately, including future directions, from psychological sources and research

4.1A Construct arguments clearly and concisely using evidence-based psychological concepts and theories

4.2A Create coherent and integrated oral arguments based on a review of the pertinent psychological literature

4.1C Use grammar appropriate to professional standards and conventions (e.g., APA writing style)

Criterion specifications for the assessment tool were adapted from relevant benchmark criteria within the AAC&U LEAP VALUE Rubrics for Critical Thinking, Information Literacy, Inquiry and Analysis, Problem Solving, Quantitative Analysis, and Written Communication.

Though encouraged, faculty leading capstone experiences are not required to participate in the program's capstone assessment plan. Should faculty wish to participate, such participation requires the voluntary submission of student work products from the capstone experiences to the Psychological Science Assessment Committee for the conduct of program assessment only.

This Assessment tool was piloted in Spring 2018 with a sample of capstone work products from Fall 2017. Based on the pilot, adjustments were made to the draft rubric to produce the final rubric that was employed to evaluate the work products produced in Spring 2018. The Capstone Assessment of Research Literacy Rubric can be found in Appendix F. Ten work products were assessed in September, 2018. The committee concluded that the work products demonstrated the following:

- Evidence of ability to properly summarize research articles was present in nine of the 10 artifacts.
- Evidence of ability to synthesize literature was present in six of the 10 artifacts.
- Evidence of ability to use appropriate writing mechanics and APA style were present in seven of the 10 artifacts.
- Evidence of ability to properly cite and use information were present in nine of the 10 artifacts.

These findings were shared with the department in a November 2018 Department Meeting and will be reflected upon as part of our analysis and action plan for the future.

3. Internship Evaluations

During the review period 2014–2018 eight Psychological Science interns were evaluated by site supervisors using a 23 item performance report provided and created by the Psychological Science Department. Intern performance is rated on a scale of excellent, very good, good, fair, poor, and not applicable. Additional space is provided for site supervisors to establish site specific performance goals and evaluate interns on those goals. The full intern evaluation report with summary data can be found below:

	8 Completed Evaluations	Poor	Fair	Good	Very Good	Excellent	N/A
1	Showed understanding of organization's mission and goals			3	1	4	
2	Worked within the structure and the system of the internship site				4	4	
3	Was punctual and reliable		1	1		6	
4	Dressed appropriately		1		2	5	
5	Followed through consistently and thoroughly on tasks		1		3	4	
6	Engaged in clear and open communication with supervisor			1	3	4	
7	Used supervision/feedback effectively to improve skills			1	3	4	
8	Sought direction/supervision as appropriate		1		4	3	
9	Practiced agency standards of client confidentiality				3	5	
10	Showed initiative (e.g., asked probing questions, volunteered assistance)				4	4	
11	Invested in creating an internship that maximized learning potential			2	3	3	

	8 Completed Evaluations	Poor	Fair	Good	Very Good	Excellent	N/A
12	Communicated effectively with agency personnel, including support staff			1	4	3	
13	Communicated effectively with outside professionals			2	2	1	3
14	Demonstrated awareness of contemporary issues and trends in the field			3	4	1	
15	Effectively negotiated ethical dilemmas				4	2	2
16	Maintained appropriate boundaries in interpersonal relationships				2	6	
17	Worked within the level of personal competencies				4	4	
18	Worked as a team player, when appropriate				2	6	
19	Established rapport with clients of varying needs and perspectives			2	2	4	
20	Focused on client's needs effectively		1		4	3	
21	Established goals with clients		1	1	4	1	1
22	Completed all required paperwork up to agency standards		1		3	3	1
23	Demonstrated level of confidence appropriate for student at this point		1	1	4	2	

At least 50% of Psychological Science interns (five or more evaluated interns) were rated as excellent or very good on all 23 performance items (100% of items). At least 75% of Psychological Science interns were rated as excellent or very good on 19 of 23 performance items (82.63% of items). One hundred percent of Psychological Science interns were rated as excellent or very good on seven of 23 performance items (30.44% of items), indicating Psychological Science interns excelled in the areas of:

- working within the structure and system of an internship site (item 2),
- practicing agency standards of client confidentiality (item 9),
- showing initiative, e.g., asking probing questions, volunteering to assist (item 10),
- effectively negotiating ethical dilemmas (item 15),
- maintaining appropriate boundaries in interpersonal relationships (item 16),
- working within the level of personal competencies (item 17),
- and working as a team player (item 18)

Five of 23 evaluation items (21.74%) were identified in which at least 25% of Psychological Science interns (at least one but never more than three evaluated interns) were rated as good. This suggests that Psychological Science interns may benefit from additional training in professional and/or content knowledge areas pertaining to:

- showing an understanding of internship organization's mission and goals (item 1),
- creating an internship experience that maximizes learning potential (item 11),
- communicating effectively with professionals outside the internship site (item 13),

- demonstrating awareness of contemporary issues and trends in the field (item 14),
- and establishing rapport with clients of varying needs and perspectives (item 19).

It is worth noting that over the span of five years not one Psychological Science intern received a performance rating of poor in any of the 23 performance items. Furthermore, in none of the 23 performance items did more than one Psychological Science intern receive a performance rating of fair. As previously indicated, the majority of evaluated Psychological Science interns were rated as performing at a very good or excellent level.

4. Alumni Feedback Surveys

Our ability to draw strong conclusions from the First and Third Year Alumni Feedback Surveys (there were no Psychological Science respondents to the Fifth Year Alumni Feedback Survey) is limited as there were only four respondents to the First Year Survey and one respondent from the Third Year Alumni Survey.

The four First Year alumni reported that they were all currently employed in a field directly related to their degree and one reported having been accepted to another institution to pursue graduate education. The Third Year alumnus reported that they are not employed in a field directly related to their degree and they are not pursuing graduate education. All five alumni indicated that they were employed within 4-6 months after graduation, with three of the alumni employed sooner.

The four First Year alumni reported being satisfied with the course of their careers while the Third Year alumnus reported neutral feelings. Four of the five alumni reported working for non-profit organizations while the fifth alumnus reported working for a for-profit company. Four of the alumni reported working in Social Services, while one alumnus reported working in Education: Higher Education.

In addition to limitations based on the miniscule sample size, questions on the alumni survey asks students about the quality of and their satisfaction with their *degree*. While all of the students reporting graduated with a degree in Psychological Science, it is important to recognize that classes taken for the major constitute only about 40% of all the classes taken by undergraduates towards their degree and therefore we cannot know what classes students are referencing when they are asked about the quality of their classroom and faculty experiences. With respect to the quality of the degree the students received, students indicated the following:

	Excellent	Good	Fair	Poor	Response Total
Quality of faculty instruction	60%(3)	40%(2)	0%(0)	0%(0)	5
Level of individual attention	60%(3)	40%(2)	0%(0)	0%(0)	5
Quality of academic advisement	40%(2)	20%(1)	40%(2)	0%(0)	5
Curriculum linked to job-related skills & knowledge	40%(2)	40%(2)	20%(1)	0%(0)	5
Preparation to meet the demands of my job	60%(3)	40%(2)	0%(0)	0%(0)	5
Preparation to continue my education	60%(3)	40%(2)	0%(0)	0%(0)	5

With respect to the extent to which Fitchburg State University prepared you in terms of specific skills, alumni reported the following:

	Very Well	Well	Neutral	Poorly	Very Poorly	Response Total
Ability to think analytically & logically	20%(1)	80%(4)	0%(0)	0%(0)	0%(0)	5
Ability to acquire new skills & knowledge on your own	40%(2)	60%(3)	0%(0)	0%(0)	0%(0)	5
Ability to use the knowledge, ideas, or perspectives gained from your major field	40%(2)	60%(3)	0%(0)	0%(0)	0%(0)	5
Ability to orally communicate well	20%(1)	80%(4)	0%(0)	0%(0)	0%(0)	5
Ability to judge information/ideas/actions/conclusions based on sources/methods/reasoning	40%(2)	40%(2)	20%(1)	0%(0)	0%(0)	5
Ability to write effectively	20%(1)	60%(3)	20%(1)	0%(0)	0%(0)	5
Ability to use information technology in intellectual and/or professional pursuits	20%(1)	60%(3)	20%(1)	0%(0)	0%(0)	5
Ability to understand & appreciate cultural & ethnic differences between people	40%(2)	60%(3)	0%(0)	0%(0)	0%(0)	5
Ability to understand international perspectives on economic, political, social & cultural issues	20%(1)	60%(3)	20%(1)	0%(0)	0%(0)	5
Ability to gain an understanding of our appreciation for the arts	40%(2)	40%(2)	20%(1)	0%(0)	0%(0)	5
Ability to understand & apply quantitative principles & methods	60%(3)	20%(1)	20%(1)	0%(0)	0%(0)	5
Ability to understand scientific method	60%(3)	40%(2)	0%(0)	0%(0)	0%(0)	5

Moving forward, we would advocate for a set of major-specific questions on the alumni survey or, perhaps, the introduction of a required exit interview conducted by the chair, so that accurate information regarding student perceptions of the major can be collected.

5. Student Post-Graduation Outcomes

In an attempt to better understand the outcomes of students post-graduation, we collected data regarding current employment and advanced education for students who have graduated from our program in the last five years from sources such as LinkedIn as well as our personal contacts. For the 215 graduates, information was obtained for 79 students (37% of our graduates). Those 79 students were employed in the following categories of occupations:

Category of Occupation	Response Total
Human Services/Counseling/Clinical	38%(30)
Sales/Management	24%(19)
Teacher/Teaching Assistant	13%(10)
Research Assistant	6%(5)
Administrative Support	6%(5)
Human Resources/Personnel	5%(4)
Other	8%(6)
Total	100%(79)

The full listing of these occupations can be found in Appendix G.

For the 79 students from whom we were able to collect information about employment or advanced education, 41% reported enrollment in or completion of advanced degrees, 31 Masters degrees and two Doctorates of Philosophy. Of the 33 programs reported, they fell into the following broad categories:

Category of Advanced Education	Response Total
Counseling/Clinical/Guidance	39% (13)
Applied Behavior Analysis (ABA)	12%(4)
Social Work	9%(3)
Education	9%(3)
Neuro/Cognitive Science	6%(2)
Other	21%(7)
Unknown	3%(1)
Total	99%(33)

Eight students reported working towards or earning a Masters degree from the Clinical Mental Health or School Counseling programs at Fitchburg State University. A full listing of the Advanced Degrees obtained or pursued by our recent graduates can be found in Appendix H.

6. Time to Graduate Trend Data

Current time to degree completion data was not provided. Additionally, past data indicated less than four years for "time to degree completion," which was deemed unreliable and excluded from the current self-study.

7. Graduation Rate Trend Data

Over the past five years, 2014-2018, 209 graduates majored in Psychological Science. Graduation rates in the major significantly increased from AY 14 (30 graduates) to AY 15 (50 graduates) and seem to be holding in the forties with 41 graduates in AY 16, 46 graduates in AY 17, and 42 graduates in AY 18. Complete data can be found in the table below. The majority of graduated majors completed the general Psychological Science Concentration (184 graduates), 10 graduates completed the Cognitive Science Concentration, and 15 graduates completed the Developmental Psychology Concentration.

Over the past five years, 2014-2018, 252 graduates minored in Psychological Science. Graduation rates of minors seem to be holding in the mid-forties to upper-fifties, with 54 in AY 14, 44 in AY 15, 48 in AY 16, 47 in AY 17, and 59 in AY 18.

Additionally, graduation rates in the past five years have included 17 graduates who minored in Neuroscience, Behavior and Cognition and 152 graduates who minored in Disability Studies. Both minors require the completion of multiple Psychological Science courses. In AY 14 four GCE graduates minored in Psychological Science.

Graduates who:	AY 14	AY 15	AY 16	AY 17	AY 18	Total
majored in Psychological Science	30	50	41	46	42	209
minored in Psychological	54	44	48	47	59	252
minored in Neuroscience in Behavior	0	0	3	8	6	17
minored in Disability Studies	10	11	13	39	79	152
minored in Psychological Science via GCE	4	0	0	0	0	4

IV. Analysis and Action Plan for the Future

a. Comparative Strengths and Distinctiveness, and Areas of Improvement Across all Program Levels

The strengths of our program are all tied to an extremely hard working and dedicated group of faculty. As noted beginning on page 9, in the five years since our last review, we have made significant progress in addressing most of the recommendations that came out of this review including a major curriculum revision and the hiring of two new faculty. The changes we have made in such a relatively short time speak to the motivation and cohesiveness of our faculty and the strong leadership provided by our chair.

The substantial changes we made to our curriculum have also made our program much stronger. The new curriculum provides our students with a strong background in the core areas of psychological science while also providing them with the opportunity to specialize. The creation of the cognitive science and applied tracks provides students with a set of skills tailored to their interests and career plans. Students have the flexibility to choose an area of interest, but also the structure many of them need to ensure that they are prepared for employment or graduate study in their area of interest after graduation. Students who want to further specialize have available to them the NBC minor as well.

Another strength related to our curriculum is inclusion of more high impact experiences (e.g. internship, research practicum, labs). Like the tracks, these experiences can be tailored to fit students' areas of interest. Students must take a lab course as part of their core education and then may have the opportunity to participate in an applied/research internship and/or research practica. As noted in the full review, these experiences allow students to apply foundational knowledge in Psychological Science, to develop important practical skills, and to network in ways that could help with their searches for post-graduate employment.

Many of our students also work a large number of hours which limits their flexibility in scheduling. Adding more online and hybrid courses make it easier for students to meet their graduation requirements.

Although the data is limited, our alumni rate the value of their psychological science education as strong and highly relevant to their career or grad school aspirations.

b. Opportunities to Extend Existing Strengths and Resources in Place or Needed

One of the greatest strengths identified in the previous section is the number and variety of high impact practices offered, and in some cases required, of our students. All Psychological Science majors take a Research Design and Analysis sequence in which they are required to work with other students to design and conduct a new study. This course integrates research methods and statistics to provide a solid foundation. All students are also required to take a 1-credit lab in which they get hands-on experience collecting and working with data. In addition, all students in the major are required to take a capstone course which includes the options of Research Practica or Internship.

Over the last several years, since our move to McKay and the completion of our lab space, more students have had the opportunity to become involved in research with faculty members. There have been some challenges in the registration of students for practica experiences but a new registration process was begun this spring involving the use of new departmental forms and red cards from the chair of the department which appears to be much more efficient and something we would like to see continued. Last year also saw an increase in our departmental budget which has helped to support the purchase of classroom and lab materials. The campus also purchased subscriptions to Sona, a cloud-based participant management software, and SPSS, statistical software. Additional materials that still need to be purchased are an eye tracker and Woodcock Johnson test. It will also be important to allocate funds for updating current equipment.

With the separation from Behavioral Sciences and redesign of our curriculum, we have endeavored to create an internship experience that more closely aligns with the goals of Psychological Science with a greater focus on scientist and scientist-practitioner. As such and as our numbers increase, we would like to continue to grow the internship program with the development of two types of internship seminars--one focused on research and one on more applied internships. Some students have had difficulty securing internships due to limitations with transportation or scheduling. One area we might pursue is the development of internship relationships with offices on campus such as Expanding Horizons, Human Resources, and Career Counseling. As the internship program grows, we expect that additional support will be required for the faculty member assuming the internship coordinator role.

c. Weaknesses Found During the Self-Study

We have identified a handful of weaknesses in our Self Study. Related to assessment, we need to develop curriculum mapping that aligns with APA learning outcomes. Similarly, our internship evaluation does not formally align with APA learning outcomes. We also currently lack high quality assessment data and a means to collect such data from our graduating students and alumni. Such data could be instrumental in improving the program in the future.

For student-related weaknesses, we currently have limited student involvement in Psych Club and Psi Chi. The level of student interest and involvement varies over the years, and is currently at a relative low, which likely relates to increased non-academic demands on our students' time.

For faculty-related weaknesses, we have identified the lack of faculty diversity, particularly given the high level of diversity within our university and especially within our department. While such issues are widespread in other universities, it should be acknowledged and addressed. Finally, our adjunct professors are predominately assigned to teach introductory courses; having more full-time faculty teach introductory courses can increase the likelihood that students take the next courses in the psychology sequence. This could also improve their foundation in psychology, and could help to establish earlier student-faculty relationships (<https://www.chronicle.com/article/It-Matters-a-Lot-Who-Teaches/243125>).

d. Opportunities for Addressing Weaknesses

There are a number of opportunities to address the weaknesses noted above. With respect to our assessment practices, the department needs to identify the most critical APA learning outcomes prior to engaging in specific assessment activities or curriculum mapping. Specifically, there are five overarching APA goals for undergraduate education in Psychology which each have numerous learning outcomes associated with them. For instance, under the APA Goal 1. Knowledge Base in Psychology, there are 3 subcategories of outcomes that include a total of 14 additional outcomes. The department as a whole will refine our assessment practices by choosing a smaller number of specific learning objectives within each APA goal that we are seeking to adopt for our program. This refinement process will occur prior to curriculum mapping, an important proposed next step in our assessment plan.

Also with respect to assessment, we will refine our internship materials by developing a new internship evaluation that matches specific APA learning outcomes. As noted previously, our current evaluation form is based upon the comprehensive materials developed for the Behavioral Sciences program. Our form should, however, be more specifically aligned with the APA learning outcomes that we identify as most central to the goals of our program (see above paragraph). The department has a Student Affairs subcommittee that could tackle the development of a revised internship evaluation form, in conjunction with the work on refined outcomes that will be done by the full department.

Furthermore, the department would like to develop and administer an exit survey in our History and Systems course. Students taking History and Systems are at the end of their major career, and all students in the program are required to take History and Systems. Questions could cover perceptions of the program, students' future goals and plans, as well as constructive feedback about the program that could help to strengthen the program experience for future students and also reinforce our understanding of what is currently successful.

With respect to student involvement in Psychology Club and Psi Chi (the International Honor Society for Psychology), it is first important to obtain student feedback about these two organizations and how they might both be structured in order to increase involvement. Interest in having active chapters (defined as having a student leadership board that plans ongoing activities) has been variable over the past several years. Every few years, an eager group of students will revive the Psychology Club for a short time. On the other hand, other students have said that they could not join Psi Chi if it required a time commitment. Assessing student interest, along with brainstorming ways to engage our busy students (who are often working many hours outside of class), are both initial strategies to consider when working on the future of these organizations.

With respect to diversity, our self-study indicates that our students are more diverse (38.6%) than the institutional average. Conversely, our faculty lack diversity with respect to ethnicity (see page 16). We recently completed a faculty search that emphasized an interest in studies related to diversity. As such, increasing opportunities in the curriculum to engage in the study of diversity/multicultural issues is an important goal. This could be done a) through the creation of a course; and b) embedding modules or content within existing courses.

Also with related to faculty, as noted in the aforementioned section, our adjunct faculty predominantly teach introductory level courses (with some exceptions such as Social Psychology or Abnormal Psychology). Thus, we would like to re-examine placement of adjuncts. It is important to note, however, that sections of introductory courses are often added after full-time faculty have been assigned to courses for the semester and after registration. As such, this may be a difficult task; however, it remains a goal.

e. Positioning of Program to Address Future Direction of the Discipline in the Next Five Years

According to a 2017 report by APA, trends in the field of psychology include acknowledgement of overall growth in the field of psychology, integration of technology in applied psychology fields, understanding of the social factors that may negatively affect health, the role of psychology in advocating for science, being involved in genetic studies of disorders, workplace psychosocial safety, interdisciplinary interaction, the use of telehealth, issues of gender equality, and addressing issues with study replicability as well as data sharing. For more information, see:

<https://www.apa.org/news/press/releases/2017/10/trends-psychology.pdf>

The Fitchburg State program is well-positioned to address these trends. For instance, the applied psychology concentration includes industrial/organizational courses that address psychological factors in the workplace. The emphasis on health is well-represented by our inclusion of Health Psychology in our curriculum. The requirement of biopsychology and option of a cognitive science concentration shows the strength of the program in representing the physiological direction of the field. The NBC minor is interdisciplinary and integrates different perspectives to understanding psychology. In addition, the role of the FSU Psychology department in advocating for science is stronger now that the department is housed in the same dean structure as the other science disciplines. As a field, psychology is utilizing technology more than ever, which is why the use of SPSS and Sona is so important. In addition, in the RDA sequence, students are exposed to working with data and interpreting findings, including the challenges such as problems with replicability.

Another future direction for the field is to provide a greater emphasis on individual high impact practices. With the latest curriculum changes, we now require a capstone with emphasis on unscripted problem solving, critical thinking, synthesis, and the ability to access and digest research. With the addition of lab space, faculty are better able to provide students with hands-on research experience. These research skills are highly desired by employers and graduate programs.

Finally, there is a growing focus in the field in the area of student professionalism and career planning. The psychology department includes faculty with expertise in career planning and counseling, which is a valuable resource for students. Dr. Adams has provided multiple sessions on career development and graduate school planning which can be developed more in the future.

Specific Goals	Measurables	Actions	Responsibilities	Timeline
Further Develop Assessment Plan				Spring 2021
	Adoption of APA Objectives	Review and vote on APA objectives we wish to adopt	Full Department	Spring 2020
	Curriculum Map	Perform curriculum mapping to align courses to those objectives	Coordinated by Assessment Committee	Spring 2021
	Internship Evaluation	Create internship evaluation that matches APA outcomes	Student Affairs Committee	Spring 2021
	Exit Survey	Create exit survey for students in History and Systems	Assessment Committee	Spring 2021
Expand Internship Program	Double size of the current program	Develop specialized seminars for research-based and applied internships Develop relationships with relevant offices on campus Seek course release for internship coordinator	Student Affairs Committee Department Chair	Spring 2024
Improve involvement in Psi Chi and Psychology Club	Student Interest Survey	Develop and administer a survey to all Psychological Science Majors and Minors to determine interests related to student club involvement	Student Affairs Committee	Spring 2020
Expand emphasis on diversity in the discipline	Cross-cultural Psychology course	Develop and offer a new course in Cross-cultural Psychology	Curriculum Committee Full Department	Spring 2023
Re-examine placement and use of adjunct faculty across the curriculum	Reduce use of adjunct faculty in introductory courses by 15%	Discuss, as a department, the best use of adjunct faculty	Full Department	Spring 2023
Strengthen the career development and professionalism of our students				
	Web-based tutorial on career decision-making	Develop a web-based tutorial that will allow students to explore vocational interests and provide information regarding career paths	Student Affairs Committee Dr. Christopher Adams	Spring 2020
	Vocational Psychology Seminar	Creation and offering of Advanced Seminar in Vocational Psychology	Dr. Christopher Adams	Fall 2019
Expand Research Opportunities for Faculty and Students	Expand research opportunities for students by 25%	Advertise and raise visibility of research opportunities for students	Research Organization Committee	Spring 2025

i. Resources Necessary to Achieve the Plan

- Release time for the Internship Coordinator
- Purchase of lab equipment including eye tracker and Woodcock Johnson
- Money for replacement/servicing of existing lab equipment

Appendix A
FACULTY DEMOGRAPHIC DATA TABLE

Demographic Faculty Summary	No. of Full Time Assigned to Unit	No. of Part Time Assigned to Unit
Women	8	0
Men	3	1
<i>Ethnicity*</i>		
White/Caucasian	10	1
Asian	0	0
Hispanic/Latino	1	0
Black/African American	0	0
American Indian	0	0
International or Other	2	0
<i>Credentials – highest degree held</i>		
Bachelor's Degree	0	0
Master's Degree	0	0
Doctorate	11	1
<i>Experience</i>		
0-3 years	1	0
4-7 years	1	0
8-11 years	1	0
12-15 years	2	0
16-24 years	6	0
25+ years	0	1

* Based on self-reported data among faculty teaching in 2018-2019; faculty could choose multiple categories.

Appendix B

FACULTY CREDENTIAL TABLE

Name	Rank	Type of Academic Appointment TT, T, NTT	FT or PT	Highest Degree	Professional Registration Certification	FTE by Program	Very Brief description of Activity		
							Teaching	Scholarship	Service
Christopher Adams	Assoc P	T	FT	PhD	NA	4/4	Clinical Psychology, Personality, Abnormal, Psychology of Human Relations, History and Systems	Religion and spirituality in counseling; Counselor training; Career development	ACA conference reviewer; APA conference reviewer; Editorial board member for Journal of Counseling & Development and Counseling & Values, Developed and lead career workshops; IRB chair; Departmental Student Affairs and Assessment committees; hiring committee; PEC
Cheryl Armstrong	Assoc P	T	FT	PhD	NA	4/4	Research Design and Analysis, Social Psychology, Introduction to Psychological Science, I/O Psychology	Emotional labor, Work family balance	Departmental Research Oversight and Curriculum Committees, Hiring Committee, University Honors Committee, Psi Chi advisor

Henry E. Culver	Vst Asst P	NTT	PT	EdD	NA	3/3	Abnormal, Psychology of Human Relations, Child Development, Intro to Psych	Interpersonal problem solving	2012 Trial Court Excellence Award Winner, Certified Lead ORAS (Ohio Risk Assessment System) Trainer & Formerly a member of the Gardner/Winchendon High Risk Domestic Violence Taskforce
Daneen Deptula	P	TT	FT	PhD	NA	2/2	Abnormal, Personality, Developmental Psychopathology, Intro to Psych	Cyber bullying; Children's optimism	Chair of Graduate Counseling; Editorial board of Journal of School Psychology; AUC Policies, Grad Council
Lena Ficco	Asst P	TT	FT	PhD	NA	4/4	Intro to Psych, Lifespan, Biological Psychology, Child Development, Gender Development, Cognitive Neuroscience, Research Methods, Statistics, Hormones and Cognition	Hormones and learning, Imposter phenomenon in higher ed	University Honors program Committee, Departmental Research Oversight Committee, Departmental Curriculum Committee, Food and Necessities Insecurity Committee.
Laura Garofoli	P	T	FT	PhD	Licensed Special Education Teacher, Pre-k - 8, Moderate Disabilities	3/4	Lifespan Development, Child Development, Psychology of Learning, Educational Psychology, History and Systems	Procrastination, Teaching and learning	All University Committee, First Year Experience Committee, Departmental Assessment and Curriculum Committees, Hiring Committee

Psychological Science Self-Study, Fall 2018

Cheryl Goldman	Asst P	T	FT	PhD	NA	4/4	Introductory Psych, Lifespan Dev, Child Dev, Adolescent Dev, Adult Dev, Motivation, Internship Seminar	Attachment and attachment disorders in adopted children	All University Curriculum Committee, Departmental Student Affairs Committee, Assessment Committee. Coordinator of Internships, Search Committee AY 2017- 18; AY 2018-19, PEC AY 2016-2017, Living Learning Community Committee
Michael Hove	Asst P	TT	FT	PhD	NA	4/4	Statistics, Research methods, Intro to Psych, Brain Science and Perception	Perception and action, Music and the brain	Grant Reviewer for NSF, Etc., University Faculty Scholarship Committee, Departmental SSC Liaison, Chair Research Oversight Committee
Sara Levine	P	T	FT	PhD	NA	0/2	Intro to Psych Science, Intro to Research Methods, Social Psychology, Honors Behavioral Science course	Nonverbal behavior	Director of Fitchburg State Honors Program, Member of Commonwealth Honors Program Council and Executive Committee, Site visit team member for Commonwealth Honors
Jannette McMenamy	P	T	FT	PhD	NA	4/4	Developmental Psychology, Developmental Psychopathology, and Health Psychology	Prevention science	Psi Chi co-advisor, Departmental Student Affairs Committee

Psychological Science Self-Study, Fall 2018

Hildur Halliday Schilling	P	T	FT	PhD	NA	3/3	Cognition, Memory, Research	Opioid abuse, Memory, Reading	Conductor of Community Orchestra, Director of Community Music Lesson Program, University Crocker Center
Thomas Schilling	P	T	FT	PhD	NA	3/3	Research Design and analysis, History and Systems, Developmental Psychology	Infant perception & cognition, Moral psychology, Opioid use reduction	Chair FSU IRB

Appendix C
FACULTY CREDENTIAL TABLE: RETIRED/RESIGNED

Name	Rank	Type of Academic Appointment TT, T, NTT	FT or PT	Highest Degree	Professional Registration Certification	FTE by Program	Very Brief description of Activity		
							Teaching	Scholarship	Service
Peter Hogan (Retired)	P	T	FT	PhD	NA	4/4	Introduction to Psychological Science, Motivation, Psychology in Action, Organizational Psychology, Psychology of Human Resources, Psychology of Sports and Exercise, Interpersonal Effectiveness	Management performance, Student Stress, Female Athlete Triad	Executive Board of MSCA
Brian Kelly	Asst. P	TY	FT	PhD	NA	4/4	Introduction to Psychological Science, Cognitive Neuroscience, Experimental Psychology, Biological Psychology	Studying cognition in rhesus monkeys	Advisor to Psychology Club, Chair of the University Undergraduate Research Conference Committee, Chair of Institutional Animal Care and Use Committee

Appendix D
RESOURCES

1. Operating Budget (FY 19)

Travel:	\$4,400
Office Supplies:	\$1,500
Educational Supplies:	\$3,100
Chartwells:	\$400
Student Experience:	\$304

2. Library

Please see the report from Dean Jackie Kramer in a separate attachment.

3. Space/Facilities

The psychological science department is located in the second floor of McKay. Each faculty member is assigned a separate office. Departmental office space is shared with Behavioral Sciences.

Other Spaces:

Clinical Skills rooms: 2 (connected to each other)
 Student research areas: 2
 Student lounge (shared with Behavioral Sciences): 1
 Adjunct space (shared with Behavioral Sciences):
 Research Labs: 9

Materials in Lab spaces:

Tables
 Bookcase/Cabinets
 Desks
 Computers
 Video monitors
 16 channel EEG system including a LiveAmp amplifier, an ActiCap active electrode system
 EEG compatible headphones
 Powered monitors (speakers) + stands
 Focusrite Scarlett Auditory interface
 Wireless controller
 Freezer
 Virtual Reality Headset

4. Technology

Software: SONA and SPSS

5. Equipment/Materials (teaching materials/videos)

There are no specific departmental Psychological teaching materials.

Appendix E
STUDENT/FACULTY PAPERS AND PRESENTATIONS

Papers

- Hove, M. J., Martinez, S., & Stupacher, J. (under revision), *Journal of Experimental Psychology: General*.
Feel the bass: Music presented to tactile and auditory modalities increases aesthetic perception and body movement.
- Hove, M. J., Shorrock, S., Martinez, S. (under review, *Psychology of Aesthetics, Creativity, and the Arts*).
The impact of physical exercise on music appreciation. A modulatory role of dopamine?

National/International Conferences

- Hove, M. J., Martinez, S., Schwartz, A.E., Stupacher, J. (June, 2017). Feel the bass: The link between timing, movement, and low-frequency tones. Poster presented at Neurosciences and Music. Boston, MA.
- Hove, M. J., Martinez, S., & Shorrock, S. (July, 2018). The Impact of physical exercise on music appreciation. Paper presented at the International Conference on Music Perception and Cognition. Montreal, QC, Canada.
- Hove, M. J., Martinez, S., & Stupacher, J. (November, 2016). Feel the bass: Effects of aural and bodily bass stimulation on groove ratings and movement induction. Poster presented at the Psychonomics Annual Meeting, Boston, MA.

Massachusetts Statewide Undergraduate Research Conference, Amherst MA

- Bazzinotti, G. (2015). Mathematics self-efficacy: A look at stereotypes and how learning styles affect high school students' area of study - mathematics and statistics. Oral presentation.
- Bui, J. (2017). Differences in friendship between children with autism and typically developed peers. Poster.
- Shorrock, S. (2018). Socialization in Chinese and American schools and future cult involvement. Poster.

Undergraduate Conference for Research & Creative Practice at Fitchburg State University

- Bazzinotti, G. (2015). Mathematics self-efficacy: A look at stereotypes and how learning styles affect high school students. Oral presentation.
- Bui, J. (2017). Differences in friendship between children with autism and typically developed peers. Poster.
- Creed, K. (2014). Traditional and cyber bullying: An examination of the trends. Poster.
- Martinez, S., Malone, H. Shorrock, S. (2017). The impact of physical exercise on dopamine levels & music Appreciation. Poster.
- Poma, V. (2015). Textbook analysis: Different approaches of learning. Oral presentation.

Shorrock, S. (2018). The Impact of physical exercise on music appreciation. Poster.

Shorrock, S. (2018). Socialization in Chinese and American schools and future cult involvement. Poster.

Fitchburg State University Science Symposium

Anderson, R. & Ficco, L. (2017). Are birth control pills bad for your brain?

Appendix F
CAPSTONE ASSESSMENT OF RESEARCH LITERACY RUBRIC

This criterion-referenced assessment tool assumes the reading, summarizing, and synthesizing at least four empirical research articles for a paper and/or presentation. Satisfactory performance is achieved when a student work product meets each of the criteria listed.

<p><i>2.2A Read and summarize complex ideas accurately, including future directions, from psychological sources and research</i></p> <p><i>4.1A Construct arguments clearly and concisely using evidence-based psychological concepts and theories</i></p> <p><i>4.2A Create coherent and integrated (oral) argument based on a review of the pertinent psychological literature</i></p>	
<p>Article Summaries</p> <p><input type="checkbox"/> Explicitly required in assignment prompt</p>	<p><input type="checkbox"/> Clearly describes pertinent information from the articles under review to explain their relevance to the assignment thesis/purpose in an adequately detailed and contextualized manner.</p> <p><i>Potential Qualifiers (not all elements are required to meet the above specification)</i></p> <p><input type="checkbox"/> <i>Critical elements of the theoretical frameworks, rationales, or methodologies presented in the articles under review are discussed where needed.</i></p> <p><input type="checkbox"/> <i>Uses the author's analysis of data to draw reasonable and plausible conclusions from the work.</i></p> <p><input type="checkbox"/> <i>Includes a discussion of limitations and/or implications of the articles under review where applicable.</i></p>
<p>Literature Synthesis</p> <p><input type="checkbox"/> Explicitly required in assignment prompt</p>	<p><input type="checkbox"/> Issue/problem to be considered critically is stated and described clearly and precisely.</p> <p><input type="checkbox"/> Specific argument or thesis is developed from a coherent analysis and synthesis of individual articles, comparing and contrasting the findings of the studies.</p> <p><input type="checkbox"/> Conclusion is logically tied to the information/argument presented.</p>
<p><i>4.1C Use grammar appropriate to professional standards and conventions (e.g., APA writing style)</i></p>	
<p>Writing Mechanics and APA Style</p> <p><input type="checkbox"/> Explicitly required in assignment prompt</p>	<p><input type="checkbox"/> Consistently uses important conventions of scientific writing, including organization, content, logical presentation, and stylistic choices.</p> <p><input type="checkbox"/> Uses precise, straightforward language that generally conveys meaning to readers.</p> <p><input type="checkbox"/> The writing may include some mechanical errors, but the errors do not impede the reader's ease of comprehension.</p> <p><input type="checkbox"/> Consistently employs APA style, including formatting, internal citation, and references.</p>
<p>Citation and Use of Information</p> <p><input type="checkbox"/> Explicitly required in assignment prompt</p>	<p><input type="checkbox"/> Student correctly distinguishes between common knowledge and ideas requiring citation.</p> <p><input type="checkbox"/> Student appropriately paraphrases, summarizes, or quotes, with no evidence of plagiarism.</p>

Appendix G
STUDENT POST-GRADUATION EMPLOYMENT

Grad Date	Employment
FA13	Paraprofessional, Waltham Public Schools, Aug17-present; Head Lifeguard/Waterfront Supervisor, Town of Harwich, Jun06-present
FA13	Substitute teacher, Chelmsford Public Schools; Substitute teacher K-12 & SPED, Billerica Public Schools
SP14	Agency Support, Hanover Insurance Group, Oct15-present; Waitress, North End Diner, 2013-present
SP14	Enrollment Assistant, Middlesex Community College, Jun13-present
SP14	Senior Human Resource Coordinator, Datadog, Sep18-present
SP14	Direct Care Staff, Devereux, Sep14-present
SP14	Insurance Agent
SP14	Manager, Journeys Kids, May16-present
SP14/WO	ABA Counselor, Melmark New England, Sep14-present
FA14	Match Coordinator, Family Services of the Merrimack Valley, Jan16-present
FA14	Navy
FA14	Asst Teacher, YMCA of Greater New York, Aug15- Feb17
FA14	Special Education Teacher, Doctor Franklin Perkins School, Jul17-present
SP15	Application Analyst I, Boston Medical Center, Jul16-present
SP15	Human Resources Coordinator, Advocates, Jan16-present
SP15	Applied Behavior Technician, Aspire Learning Center, Aug16-present
SP15	Assistant Director, Arc of East Middlesex, Jun18-present
SP15	BCBA Clinical Supervisor, Autism Learning Partners
SP15	Case Manager, Amego, Apr18-present
SP15	Executive Function Coach, Beyond Booksmart, Nov16-present
SP15	Mental Health Counselor, Family Continuity (Dec 15-Present)
SP15	Auto Claims Specialist, Electric Insurance Company, Sep16-present
SP15	Graduate Admissions Counselor, Southern New Hampshire University, Aug17-present
SP15	Data Analyst, On Common Ground, Feb18-present
SP15	Graduate Research Assistant, UConn Health, Aug16-present
SP15	Crew Member, Chipotle, Jun16-present
SP15	District Manager, Independent Consultant, Arbonne International, Apr15-present; Singer, Jun12-present
SP15	Special Education Teacher, Gardner Middle School, Oct16-present
SP15	Support Services Paraprofessional, Shawsheen Valley Regional Vocational Technical School, Sep18-present
SP15/WO	Associate Engineer, Aspect Software, Jun17-present
FA15	Care Coordinator, SeniorsPlus, Aug17-present
FA15	Employment & Community Specialist, Quabbin Regional School District, Sep17-present; Work-based Learning Specialist, Shriver Job Corps Center, Dec15-present
FA15	Cake Decorator/Bakery Employee, Price Chopper, Sep12-present
FA15	Retail Sales Manager, Duluth Trading Company, Aug18-present
SP16	Admissions Assistant, Suffolk University, Jul16-present
SP16	Behavioral Medicine Patient Service Specialist, Reliant Medical Group
SP16	Community Support Counselor, Riverside Community Care, May16-present
SP16	Employment Counselor, Goodwill Industries

Grad Date	Employment
SP16	Family Centered Clinician, The MENTOR Network, Jun18-present
SP16	Registered Behavior Therapist, Constellations Behavioral Services, Jun18-present
SP16	Residential Director, Kennedy-Donovan Center, Aug17-present
SP16	Research Assistant, Netherlands Institute for Neuroscience, Jan18-Aug18
SP16	Cashier/Clerk, CVS Pharmacy, Jul14-present
SP16	Pharmacy technician & Cashier, Rite Aid Pharmacy, Mar10-present
SP16	Realtor, Real Living Realty Professionals, Feb15-present
SP16	Sales Associate, Aubuchon Hardware
SP16	Teacher's Aide, Children's Aide & Family Services, Seven Hills Foundation, Feb17-present
SP16/WO	Human Resources Generalist, Buffalo Lodging Associates, Oct16-present
SP16/WO	Childcare Manager, EXOS, Jun17-present
FA16	Regulatory Affairs Specialist, Fractyl Laboratories, Jun18-present
FA16	Clinician, Community Resources for Justice, Aug17-present
FA16	Residential Counselor, Community Healthlink, Nov17-present
FA16	Adult Supervisor for the Health Kids & Families Study, University of Massachusetts Medical School, Jul16-present
FA16	Front Desk Clerk, Fitchburg State University, Feb15-present; Cashier, CVS Health, Mar15-present
FA16	Teacher Assistant, Head Start, Aug18-present
SP17	Administrative Associate, Boston Children's Hospital, Nov17-present
SP17	ABA Therapist, Behavioral Concepts, Jun17-present
SP17	Crisis Specialist, Community Healthlink, Jul17-present
SP17	Mental Health Counselor, TaraVista Behavioral Health Center, Jul18-Present; Mental Health Counselor, Walden Behavioral Care, Aug17-present; Counselor, Alternatives Unlimited, Aug16-present
SP17	Program Services Coordinator, the MENTOR Network, Aug17-present
SP17	Research Assistant, Yale University
SP17	Assistant Manager, Skechers, Jun14-present
SP17	Hair Stylist, Supercuts
SP17	Professional Photographer, RProPhoto, 2013-present; Supervisor, Lift Department, Wachusett Mountain Ski Area, Dec12-present; Pet Care Associate/Sales Associate, Mount Tully Kennels, Nov12-present
SP17	Special Education Instructional Assistant, Worcester Public Schools, Apr18-present; Behavior Technician, Autism Behavioral Center, Jan18-present
SP17	Data Management Assistant, US Army Natick Soldier Research, Development & Engineering Center, Oct 2018 – present
SP17/WO	Certified Peer Recovery Counselor, Bridge of Central Massachusetts, Jul18-present
SP17/WO	Member Services Associate, Blue Cross/Blue Shield of Massachusetts
SP17/WO	Pharmacy Technician, CVS Health, Sep16-present
FA17	Behavior Therapist, ABACS, LLC, May18-present
FA17	Residential Counselor, Doctor Franklin Perkins School, Oct15-present
FA17	Senior Claims Resolution Specialist, Hanover Insurance Group
FA17	Special Education Paraprofessional, Randolph Orange Southwest School District, May18-present; Assitant Teacher, Doctor Franklin Perkins School, Mar17-present
FA17/WO	Case Manager, Greater Nashua Mental Health Center, Aug18-present
FA17/WO	Event Coordinator, Volunteer Center, Fitchburg State, Sep16-present
FA17/WO	Food server, Outback Steakhouse, Aug17-present

Grad Date	Employment
SP18	Case Manager, Eliot Community Human Services, Sep18-present
SP18	Housing Navigation Center VISTA, United Way of Weld County, Aug18-present
SP18	Residential Support, Berkshire County Arc
SP18	Assistant Manager, Market Basket, Jan16-present

Appendix H
GRADUATED STUDENTS' ADVANCED DEGREES

Grad Date	Advanced Education
FA13	MA Mental Health Counseling Licensure, Fitchburg State University, 2016-2019
SP14	MA, Special Education and Teaching, Vanderbilt Peabody College, 2017-2019
SP14	MS, Clinical Mental Health Counseling, Capella University, 2015-2021
SP14	MS, Human Resources, Northeastern University, 2014-2016
SP14	MS, School Counseling and Guidance Services, Fitchburg State University, 2014-2018
FA14	MA Mental Health, Mental Health Counseling, Cambridge College, 2015-2017
FA14	MA, Southern New Hampshire University
FA14	MA, Special Education & Teaching, Fitchburg State, 2016
SP15	M.Ed., ABA, Endicott College, 2016-2018
SP15	M.Ed., Special Education/Moderate Disabilities, Fitchburg State, 2015-2016
SP15	MA Psychology with focus on Neuroscience, Boston University, 2015-2016
SP15	MA, Mental Health, Fitchburg State
SP15	MS, Applied Communication, 2016-2018
SP15	MS, Behavior Analysis, Simmons College, School of Management, 2015-2017
SP15	PhD, Biomedical Sciences, University of Connecticut Health Center, 2016-2021
SP16	MA Social Work, University of Central Florida
SP16	MA, Brain & Cognitive Sciences, University of Amsterdam, 2016-2018
SP16	MA, Counseling Psychology, William James College, 2016-2018
SP16	MA, Mental Health Counseling, Concentration in Forensic & Correctional Counseling, William James College
SP16	MA, School Counseling, Fitchburg State University
SP16	MA, School Guidance, Fitchburg State
FA16	MA, Applied Behavior Analysis, Assumption College, 2017-2018
FA16	MPH, Southern New Hampshire University
FA16	MS, Health Psychology, University of Aberdeen, 2018-2019
SP17	MA, Mental Health, Fitchburg State University
SP17	MA, School Counseling, Fitchburg State University
SP17	MBA, Fitchburg State University, 2018-2020
SP17	MSW, Psychological Science/Clinical Social Work, Boston University, 2017-2019
FA17	Clinical MSW, University of Central Florida
FA17	Forensic Mental Health Counseling, Roger Williams
FA17	M.Ed., Applied Behavior Analysis, Van Loan School at Endicott College, 2018-2020
FA17	PhD in Biomedical Science, University of Oklahoma
FA17/WO	MA Clinical Mental Health & Forensic/Correctional Counseling, William James College