

2018-2019
Unit Assessment Report
Division: Academic Affairs

Unit: Division of Health & Natural Sciences

I Mission and Goal/Outcomes Statement:

The mission of the Division of Health and Natural Sciences is to help students develop the skills and habits of mind necessary for scientific inquiry and analysis in their professional, personal and civic lives. Faculty experts and engaged staff in the fields of biology, chemistry, earth and geographic sciences, exercise and sports science, mathematics, physics, psychological science, and nursing support students via foundational learning in the general education curriculum and mastery of content in a variety of majors. Our faculty offer classroom, laboratory, and clinical instruction as well as research opportunities in the sciences and health professions. Faculty and staff collaborate across the university and beyond to offer interdisciplinary learning opportunities.

The overarching goal for the division in 18-19 was, after one-year in for the new Dean, to begin focusing on any number of inward and outward facing initiatives and challenges, including:

1. Develop a divisional identity, including a mission/vision statement, webpage, and common department goals and objectives.
2. Continue to build community relationships related to STEM and health sciences education, outreach and service via Montachusett Regional Vocational Technical School, Leominster B&G Club and other regional.
3. Develop partner or guaranteed admissions agreements for programs with capacity and the opportunity for growth, such as Exercise and Sports Science and the online RN to BS in Nursing degree.
4. Expand, better operate and track results from what will now be the STEM and Health Sciences Living Learning Community.
5. Expand support for undergraduate success and scholarship, along with faculty research opportunities via at least one external grant proposal.
6. Continue to build external relationships with alumni, community, business and government partners via outreach coordinated with the Grant Center and Institutional Advancement.
7. Continue to develop successful strategies and approaches for student success in introductory mathematics, using data-informed approaches to reduce reliance on developmental mathematics courses.
8. Evaluate efficacy of existing programs and selectively offer new programs that optimally serve the needs of the commonwealth by utilizing existing faculty expertise and resources.

II Personnel:

Administrative Staff:

<u>Name</u>	<u>Position</u>
Schaumloffel, John	Dean (1.0 FTE)

Support Staff:

<u>Name</u>	<u>Position</u>
Murray, Jennifer	Administrative Assistant II (August 18-present, 0.5 FTE)
Babineau, Lindsay	Administrative Assistant II (fraction of summer 18, 0.5 FTE)

III Facilities/Equipment:

None

IV Budget Expenditure Analysis:

The dean's office budget was expended as planned, with some realignment of funding based on the dean being unable to travel from March to June. In addition there were two items item of pass-through funding (\$875) from the Provost. One was used to support Dr. Erin Rehrig's attendance at the CURE.net Workshop in RI in June 2019 (<https://serc.carleton.edu/curenet/institutes/ccri/index.html>), and the other was for Dr. Rajabuin's expenses for the EPH program review.

Category	Approximate Expenditures	Notes
IACUC Veterinarian	\$2,500	Fixed cost annual contract starting FY19
STEM & Health Sciences RLC	\$3,650	37 undergraduate participants
Discretionary: Depts and Faculty	\$4,600	\$1,100 reallocated when the dean could not travel. \$3,500 budgeted initially.
Dean's Office Cell Phone	\$600	
Dean's Office Outreach (recognition gifts, etc.)	\$865	For FY20, we've decided to purchase "thank you" gifts in bulk from a state vendor instead of the bookstore.
Dean's Office Supplies & Operational	\$465	Primarily Amazon and Staples
Special Project	\$295	H&NS Alumni Mapping Project
Dean's Office Travel, Furniture Meals, Memberships, Miscellaneous	\$5,100	
Total Budget FY19	\$18,075	Excludes pass-through expenses.

V Action Plan for 2018-19:

Unit Action Plan 2018-2019 (Version 3, 8/30/18)

Division: **Academic Affairs** Unit: **Division of Health & Natural Sciences**

Unit Mission (In Progress, retreat notes below):

How we support the university mission as a division:

Foundational skills
Scientific reasoning and quantitative analysis and inquiry
General Education (Liberal Arts & Sciences)
Mastery in specific disciplines or fields
Multidisciplinary learning and experiences
Small classes, internships, practicums
Personal wellness
Community-based learning and service
Students learning about themselves and the natural world

Common values:

Accessibility and success for all students
Respect
Community
Transparency
Evidence-based thinking and learning
Deep student-faculty mentoring
Ethics (morals)
Lifelong learning preparation (skills and habits of mind)

Division goals:

Development of habits of mind to foster success in students future lives and chosen fields
Students learn and develop transferrable skills
Open-mindedness
Cultivating a culture for effective collaboration

<p style="text-align: center;">Goals/Outcomes:</p> <p>Prepare students for success in the workforce through a university education, which combines a liberal arts education and professional programs. (Strategic Plan Objective 1A)</p> <p>Develop new academic majors, minors and agreements. (Strategic Plan Objective 1B)</p> <p>Make innovative use of developing technologies appropriate for students of the 21st century. (Strategic Plan Objective 1C)</p> <p>Enhance and affirm student, faculty, and staff diversity as central to the Fitchburg State experience. Experiencing diversity expands perspectives, contributes to multicultural competence, and becomes a key element in attracting and retaining students, faculty, and staff. (Strategic Plan Objective 1D)</p>	<p style="text-align: center;">Associated Strategic Plan Goals:</p> <p style="text-align: center;">Goal 1: Strengthen Academic Programs</p>
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<u>Objectives</u>	<u>Performance Measures/Targets</u>
Seek external, non-Commonwealth funding, support for undergraduate research and/or curriculum development. (Strategic Plan Objective 1A2)	At least one grant proposal to a federal agency submitted in FY20.
Review alternative assignment course release time awards with an eye toward increasing awards for scholarly and creative activity in comparison to creative activity (Strategic Plan Objective 1A4)	Collaborate with the Grant Center to identify and request funding to support the Summer Research Program with funding secured in FY 20.
Complete dual-admissions agreement with MWCC for Physical Therapy Assistant to Exercise and Sport Science major (Strategic Plan Objective 1B1).	Offer alternative assignment (APR) for at least one new tenure-track faculty member hired for a fall 2019 start so that they can accelerate their research agenda.
Receive BHE approval for the Environmental Public Health major. (Strategic Plan Objective 1B3).	Plan to offer, in FY 20, a 3-credit alternative assignment (APR) for at least one faculty PI on a successful, external, federally-funded grant proposal funded in that fiscal year. New agreement in place before fall 2019 semester.
Concentration in Biochemistry and Molecular Biology approved through governance (Strategic Plan Objective 1B3)	New major approved and offered to students in fall 2019.
Continue expansion of the use of Open Educational Resources (OERs) (Strategic Plan Objective 1C2).	Governance approval by the end of the 2018-2019 academic year.
Hire at least one faculty or staff member with professional	Utilize OERs in new Mathematics in Society course in fall 2018 and beyond.
	New tenure-track faculty member in Psychological Sciences

<p>experience that engages multicultural populations (Strategic Plan Objective 1D1).</p> <p>Continue to pursue faculty and staff hires from diverse, minority or traditional underrepresented backgrounds (Strategic Plan Objective 1D1).</p> <p>Participate in intentional scheduling of study abroad (Strategic Plan Objective 1D4).</p> <p>Increase opportunities for study abroad partnerships, faculty exchanges, and trips (Strategic Plan Objective 1D4).</p>	<p>with experience in counseling cross-cultural, multi-cultural or diverse populations hired for fall 2019 start.</p> <p>At least 25% of FY19 hires self-identify from such a background (matches 2017-2018 outcome).</p> <p>Participate in the intentional scheduling of existing or planning-stage programs in nursing (Ghana and Costa Rica) and biology with a rotating schedule completed by the end of the 2018-2019 academic year.</p> <p>Develop one new exchange program agreement with an institution in Asia, Europe or the Americas (in a STEM field) by the end of the 2018-2019 academic year.</p>
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<p style="text-align: center;">Goals/Outcomes:</p> <p>Evaluate obstacles to retention and completion through the analysis of student data and the creation of campaigns to address identified barriers. (Strategic Plan Objective 2A)</p> <p>Expand the use of high-impact practices, which break down barriers to student success (Strategic Plan Objective 2B)</p>	<p style="text-align: center;">Associated Strategic Plan Goals:</p> <p>Goal 2: Promote Student Success by Breaking Down Barriers</p>
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<p style="text-align: center;"><u>Objectives</u></p> <p>Reduce reliance on remedial education (Strategic Plan Objective 2A2)</p> <p>Contribute to reaching and maintaining a retention rate of 80%. (Strategic Plan Objective 2A5). Contribute to reaching an overall six-year graduation rate by 5%. (Strategic Plan Objective 2A6)</p>	<p style="text-align: center;"><u>Performance Measures/Targets</u></p> <p>Pilot condensed remedial mathematics courses in a 1-semester model in 18-19.</p> <p>Fully implement the BHE A1 HS GPA Pilot for first-year, credit-bearing math pathway courses (with pre-calculus and nursing exceptions).</p> <p>Offer all first-year, credit-bearing math pathway courses with a co-requisite section in fall 2018.</p> <p>Increase by at least 10% the number of students completing credit-bearing mathematics pathway courses in their first year at the institution by the end of FY 20, with a goal of reaching 80% by the end of FY 21.</p> <p>Ensure that 95% of first-time, full-time students are correctly placed in developmental or credit-bearing mathematics pathway courses in their freshman year.</p>
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<p>Develop systematic means to incorporate research experiences in the regularly scheduled curricula. (Strategic Plan Objective 2B3)</p>	<p>Launch STEM & Health Sciences LLC with a goal of 90% freshman-sophomore retention rate.</p> <p>At least one new course-based research opportunity passed through governance by the end of the 2018-2019 academic year.</p>
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<p>Goals/Outcomes:</p> <p>Collaborate and align with local business, industry, educational, extended campus, and cultural partners on community-based projects and internships. (Strategic Plan Objective 3A)</p>	<p>Associated Strategic Plan Goals:</p> <p>Goal 3: Build a University Community that Embraces Civic and Global Responsibility</p>
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<p><u>Objectives</u></p> <p>Develop institutional or industry partnerships that provide for internship placements for Health and Natural Sciences majors. (Strategic Plan Objective 3A1)</p> <p>Present opportunities for civic engagement and learning in developing a scientifically educated population. (Strategic Plan Objective 3A1)</p>	<p><u>Performance Measures/Targets</u></p> <p>At least one new non-clinical partner accepting interns by the end of the 2018-2019 academic year.</p> <p>Develop a relationship with the Boys & Girls Club of Leominster that has Fitchburg State University faculty, staff or students participating in at least two of their STEM-related events during throughout FY 20.</p> <p>Participate in the Edward M. Kennedy Institute for the United States Senate/Campus Compact program on civic learning and return examples for simulation and dialogue based programs back to campus for further consideration during the 2018-2019 Academic Year).</p>
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<p style="text-align: center;">Goals/Outcomes:</p> <p>Consistent with the academic and intellectual aspirations of Goal 1, pursue opportunities to increase existing revenue and identify new revenue streams, including new program development, recruitment, retention, and overall enrollment strategies. (Strategic Plan Objective 4A)</p>	<p style="text-align: center;">Associated Strategic Plan Goals:</p> <p style="text-align: center;">Goal 4: Grow and Strategically Align Fitchburg State's Resources</p>
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<p style="text-align: center;"><u>Objectives</u></p> <p>Complete exploration of Professional Science Master's program in collaboration with GCE. (Strategic Plan Objective 4A2)</p> <p>Modest growth in program with available capacity within the context of existing department personnel and T65 budgets (Strategic Plan Objective 4A2).</p> <p>Reevaluate laboratory fee structure for nursing courses. (Strategic Plan Objective 4A5)</p> <p>Examine fee-based nursing student remediation program to be</p>	<p style="text-align: center;"><u>Performance Measures/Targets</u></p> <p>Decision on whether to proceed with program development and approval no later than December 2018.</p> <p>Increase nursing pre-major acceptances by at least 10 over the 2014-2017 fall semester average.</p> <p>10% increase in the number of Exercise and Sports Science, majors over the 2014-2017 annual average.</p> <p>Collaborate with admissions on marketing Exercise and Sports Science and Biology programs as pathways for pre-physical therapy students with new materials developed before the spring 2019 semester.</p> <p>Proposed adjustment to clinical fees no later than March 2019.</p> <p>Decision to proceed, and governance proposal (if required) no</p>
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<p>offered through GCE (Strategic Plan Objective 4A5).</p> <p>Modest growth in program with available capacity within the context of existing department personnel and T65 budgets (Strategic Plan Objective 4A2).</p>	<p>later than the end of the 2018-2019 academic year.</p>
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VI Programs/Activities:

Committees:

Institutional Animal Care and Use, Institutional Review Board, Institutional Biosafety, Curriculum (part-year), LA&S Council, Study Abroad Coordinator Search, Director of Housing Search.

Community:

Central MA STEM Network (centered at WPI), B&G Club of Fitchburg and Leominster (including Designing My Future event & organizing Dean visit).
MOC/NuView Communities "Forum" Event.
Growing Places (selected as a board member).

On-Campus Events (Summer-Fall 2018):

2018 Summer Civic Learning Conference.
Summer 2018 State University STEM Deans Meeting (host).
Division of H&NS Chair/Dean Retreat.
Orientations, Move-in Day (with STEM & Health Sciences RLC), Open Houses.
Internship Reception.
Faculty Science Symposium.
Rheine-Wall University Visitors lunch (Dean's office paid supported lunch with the Sammich group also).
International Poetry Slam and Potluck.
Employee Recognition.
Police Academy Graduation.
Idea Lab Grand Opening.
MA STEM Week Activities: American Chemical Society Project in a Box in Hammond Union, *The Last Pig* movie screening.

On-Campus Events Spring 2019:

February "Open House" Recruiting Event.
UMass Dartmouth Engaged Scholarship Symposium.
Watermark Assessment Conference.
Central MA American Chemical Society dinner and speaker (fiscal support from the dean's office).
Alumni Career Night.
Convocation.
Undergraduate Conference on Research and Creative Practice.
Internship Reception.

Off-Campus Events and Conferences:

PKAL Regional Meeting (Salem State University).
Edward M. Kennedy Institute Civic Learning Charrette (Boston, MA).
EAB Academic Affairs Forum (Washington, DC).

2018 MA STEM Summit (Worcester, MA).
AACN Dean's Fall Meeting (Washington, DC).
PKAL National Meeting (Washington, DC).
MAA NE Section Regional Meeting (Wheaton College).

VII Accomplishments 2018-2019:

In addition to the accomplishments documented below in the Assessment Report, the Division of H&NS, directly via the dean's office or in collaboration with faculty and staff partners, had a number of substantial achievements in FY19. These include:

- The development of stronger working relationships than planned with the Boys & Girls Club of Fitchburg and Leominster.
- An understanding of the distribution of our more than 6000 alumni, via the H&NS Alumni Mapping project.
- Deployment of the first internal Division Newsletter in Fall 2018, and the first of what is planned to become a semi-annual Alumni Newsletter in spring 2019 (sent to more than 2000 alumni).
- Development of close relationships with MWCC, including a grant with them to fund our STEM Summer Bridge for community college-Fitchburg State transfers in STEM fields, and the STEM Summer Research program for MWCC freshman.
- The signing of three CC-Fitchburg State Guaranteed Admissions agreements for our RN to BS in Nursing program.
- Nine (9) successful searches, including first-year APR or fiscal support in most new tenure-track faculty hires,.
- Increases in changed-major Freshman-Sophomore retention rates (AY 17 to AY 18) from 6% (Nursing), to 7% (BIOL) to 16% (EXSS), with the implementation of greater collaboration with the CCAS and more gentle program release letters.
- An increase in outreach with conducted or planned visits to BAE Systems, Charles River Lab, Heywood Hospital, the Nashoba Valley Chamber of Commerce (and specific members), Takeda Pharmaceuticals, New England Peptides and more.
- A successful, and full, implementation of the STEM & Health Sciences living and learning community.
- Seeking funding for the summer research collaborative through the Knapp Foundation (declined), the STEM Starter Summer Bridge (funded) and Nursing program Development (funded).

VIII Assessment Report (based on the 18-19 Action Plan):

✓ : Achieved or Exceeded. ⇔ : Approached ✗ : Did not achieve

Action Item	Achieved	Notes
At least one grant proposal to a federal agency submitted in FY20.	✗	We were unable to pursue in FY19.
Collaborate with the Grant Center to identify and request funding to support the Summer Research Program with funding secured in FY 20.	✓	Working with Karen Frank Mays, we have identified three avenues to pursue in FY20 (NSF S-STEM, NSF IUUE, HHMI)
Offer alternative assignment (APR) for at least one new tenure-track faculty member hired for a fall 2019 start so that they can accelerate their research agenda.	✓	Dr. Elyse Clark (E&GS) was able to take advantage of this.
Plan to offer, in FY 20, a 3-credit alternative assignment (APR) for at least one faculty PI on a successful, external, federally-funded grant proposal funded in that fiscal year.	⇔	Since we were unable to submit a proposal, this was not possible.
PTA at MWCC to EXSS at Fitchburg State: New agreement in place before fall 2019 semester.	✓	The agreement includes both the Clinical Exercise Physiology and Strength & Conditioning concentrations.
Environmental Public Health: New major approved and offered to students in fall 2019.	✓	This represented the ideal team effort between administration and faculty.
Concentration in Biochemistry & Molecular Biology: Governance approval by the end of the 2018-2019 academic year.	✓	Approved as the Chemistry Major: Concentration in Biochemistry.
Utilize OERs in new Mathematics in Society course in fall 2018 and beyond.	✓	Being used in MATH 1100: Math in Society.
New tenure-track faculty member in Psychological Sciences with experience in counseling cross-cultural, multi-cultural or diverse populations hired for fall 2019 start.	✓	Dr. E.B. Caron starts in fall 2019.
At least 25% of FY19 hires self-identify from such a background (matches 2017-2018 outcome).	✓	25% (n =1) was based on four likely hires. In the end we conducted nine searches, with one faculty member from a diverse, international background (Dr. MChenga), one staff member from a diverse, international background (Ms. Fateh), and one faculty member fluent in Spanish (Dr. Norton).
Participate in the intentional scheduling of existing or planning-stage programs in nursing (Ghana and Costa Rica) and biology with a rotating schedule completed by the end of the 2018-2019 academic year.	✓	Rotating schedule for Ghana (Nursing), Costa Rica (Nursing) and Costa Rica (Biology) in place.
Develop one new exchange program agreement with an institution in Asia, Europe or the Americas (in a STEM field) by the end of the 2018-2019 academic year.	⇔	Dr. Govindan has arranged one in China, albeit with little input from the Division.

Action Item	Achieved	Notes
Pilot condensed remedial mathematics courses in a 1-semester model in 18-19.	✓	Although a submission to governance is pending, FY20 represents the second year that developmental mathematics is a one-semester course.
Increase by at least 10% the number of students completing credit-bearing mathematics pathway courses in their first year at the institution by the end of FY 20, with a goal of reaching 80% by the end of FY 21.	↔	Data for FY19 is not available yet.
Ensure that 95% of first-time, full-time students are correctly placed in developmental or credit-bearing mathematics pathway courses in their freshman year.	✗	Due to missing approximately 30 Criminal Justice majors during pre-registration we will not meet this goal.
Launch STEM & Health Sciences LLC with a goal of 90% freshman-sophomore retention rate.	↔	33/37 = 89.2%.
At least one new course-based research opportunity passed through governance by the end of the 2018-2019 academic year.	✗	We have incentivized growth in this area for FY20. Dr. Ludlam is teaching a topics course with a course-based research opportunity and Dr. Rehrig is attending the CURE workshop.
Fully implement the BHE A1 HS GPA Pilot for first-year, credit-bearing math pathway courses (with pre-calculus and nursing exceptions).	✓	Done, with no nursing exception in FY20.
Offer all first-year, credit-bearing math pathway courses with a co-requisite section in fall 2018.	✓	
At least one new non-clinical partner accepting interns by the end of the 2018-2019 academic year.	↔	Heywood Hospital would like our interns in the Grad Counseling program at their Quabbin Retreat (which the H&NS Dean cultivated)
Develop a relationship with the Boys & Girls Club of Leominster that has Fitchburg State University faculty, staff or students participating in at least two of their STEM-related events during throughout FY 20.	✓	<ul style="list-style-type: none"> Supported IRB needs for NSF proposal Arranged Academic Dean Visit Schaumloffel and Williamson joined Admissions at Designing Our Future STEM event Biology provided Hissing Crickets at April 2019 STEM FEST
Participate in the Edward M. Kennedy Institute for the United States Senate/Campus Compact program on civic learning and return examples for simulation and dialogue based programs back to campus for further consideration during the 2018-2019 Academic Year).	✓	Associate VP decided not to proceed with seeking funding in FY19.
Decision on whether to proceed with Professional Science Masters program development and approval	✓	A decision was made, in consultation with GCE and

Action Item	Achieved	Notes
no later than December 2018.		faculty, to not proceed at this time.
Increase nursing pre-major acceptances by at least 10 over the 2014-2017 fall semester average.	✓	We have transitioned from a norm of 75-85 to 100 per fall semester.
10% increase in the number of Exercise and Sports Science, majors over the 2014-2017 annual average.	✓	60 baseline average. 69 for Fall 2018.
Collaborate with admissions on marketing Exercise and Sports Science and Biology programs as pathways for pre-physical therapy students with new materials developed before the spring 2019 semester.	✓	This has been successful with EXSS, notably with their marketing video (materials), strength and conditioning concentration, and other outreach activities. It has been less successful for Biology.
Proposed adjustment to clinical fees no later than March 2019.	↔	An adjustment was made to start FY19, but no further changes have been made.
Fee-Based Nursing Remediation: Decision to proceed, and governance proposal (if required) no later than the end of the 2018-2019 academic year.	✗	With significant activity, hiring, and curriculum in the department, this item may be carried forward for FY20.

IX Future Directions:

The Action Plan for 19-20 (FY20) is still being developed. In part, this is because our Division Chair/Dean retreat could not be held until August due to personnel availability. However, core action items for the Division in FY20 will likely include:

- Continuing to develop stronger and more effective relationships between the Dean's office, the Dean, our internal and external partners, and our faculty colleagues.
- Continuing to seek funds for continuing to expand our summer research program and undergraduate research in general.
- Initial program development (new majors, not concentrations) in alignment with the upcoming strategic plan.
- Continued focus on diversity (both in hiring, staff/faculty development, and curricula).
- Defining what the division wants in a STEM Success Center.
- Addressing potential space and facilities needs in Nursing and Exercise Science.
- Continuing to work towards meeting all BHE goals for first-year mathematics success.
- Additional focus on corporate and alumni relationships, including seeking fiscal support for student research, study abroad and other high-impact practices.

X Supplemental Information:

None.