

# Laboratory Science Program Review

Fall 2020

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# Program Mission:

1. To prepare students to be well-qualified laboratory technicians in a variety of science industries after graduation.
2. For those students that wish to pursue a Baccalaureate degree after graduation, prepare students academically and cultivate transfer opportunities.



# Program Strength: Curriculum

- Developed with Industry and Transfer Institution Input
  - Hands-on Experience

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## Core Program Courses

### 1<sup>st</sup> year

- SCI 100 Basic Lab Calculations
- SCI 105 Laboratory Methods
- SCI 106 Biotechnology
- CHM121 General Chemistry I

### 2<sup>nd</sup> year

- CHM 201 Org. and Biochemistry
- CHM 203 Instrumental Analysis
- BIO230 Cell Biology
- BIO280 or CHM 280 or ERS 280:  
Seminars in Biotech or Analytical  
Chemistry or Environmental. Sci.
- SCI 281 Research Experience
- SCI 291 or 292 Externship

Additional Courses: ENG 101, CIS 110, MAT 125, MAT 130 or higher, 3 Gen. Ed. Electives, 1 Science Elective

# Program Strength: Externships



# Program Strength: Externships

## From Externship Supervisor Survey (last 2 years)

How satisfied are you with NECC's internship programs and students

Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
5	7			

Would you be willing to host another Laboratory Science Program student as an intern in the future?

Yes	Maybe	No
9	3	0

# Program Strength: Externships

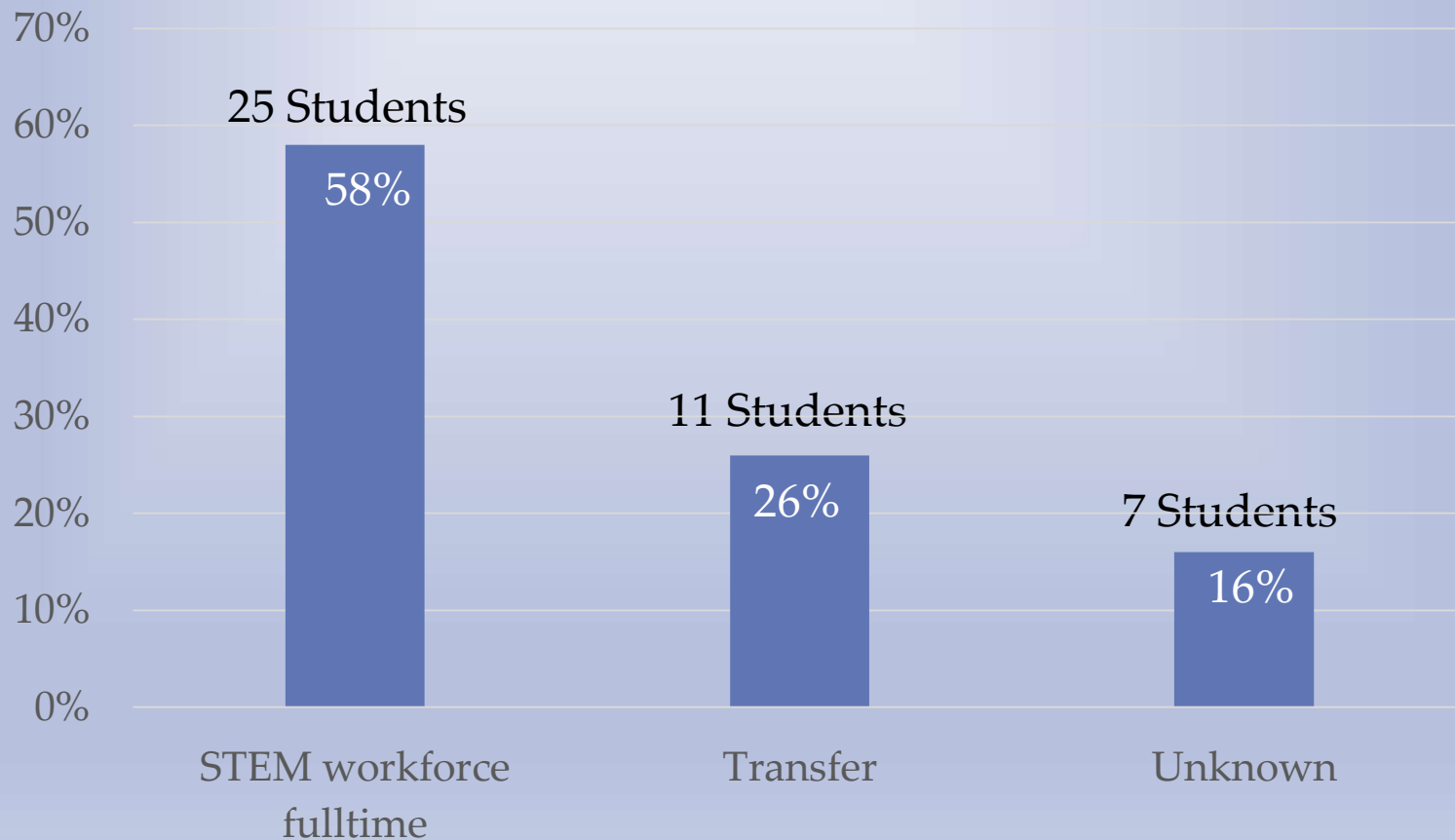
## Externship Supervisor Comments:

- The student “would be an excellent lab technician in any lab.”
- The student “would be an asset to any facility that hires her.”
- The student “met all our expectations. He’d certainly be welcome back in the future!”
- The student “would make a great member of [the company family] as he has been a joy to have as a member of our laboratory for the summer.”



# Program Strength: Career Placement

Career Path for Lab Science Graduates 2016-2020



# Program Strength: Job placement

**In the last year, several companies have reached out to us to ask us for job candidates and have hired Lab Science graduates:**

Azurity Pharmaceuticals, Charm Sciences, Coca-Cola, Pfizer.

(Pfizer – Lots of positions but our graduates all had positions before Pfizer was ready)

**We have also had companies “come back for more” after hiring their first Lab Science graduate:**

Azurity: hired 3 in the last year

Coca Cola: hired 4 in the last few years

Boston Analytical: has hired 4 graduates (latest last year)

Charm Sciences: has hired 5 or 6 (latest last year)



# Program Strength: Transfer

## Two Transfer agreements

UMass-Lowell: Applied Biomedical Sciences program  
(Clinical Science or Medical Laboratory Science option)

-Requires completion of several extra courses while at NECC

Rivier University: Straight to B.S. in Biotechnology program as Junior

## Secondary transfer options at UML (in progress)

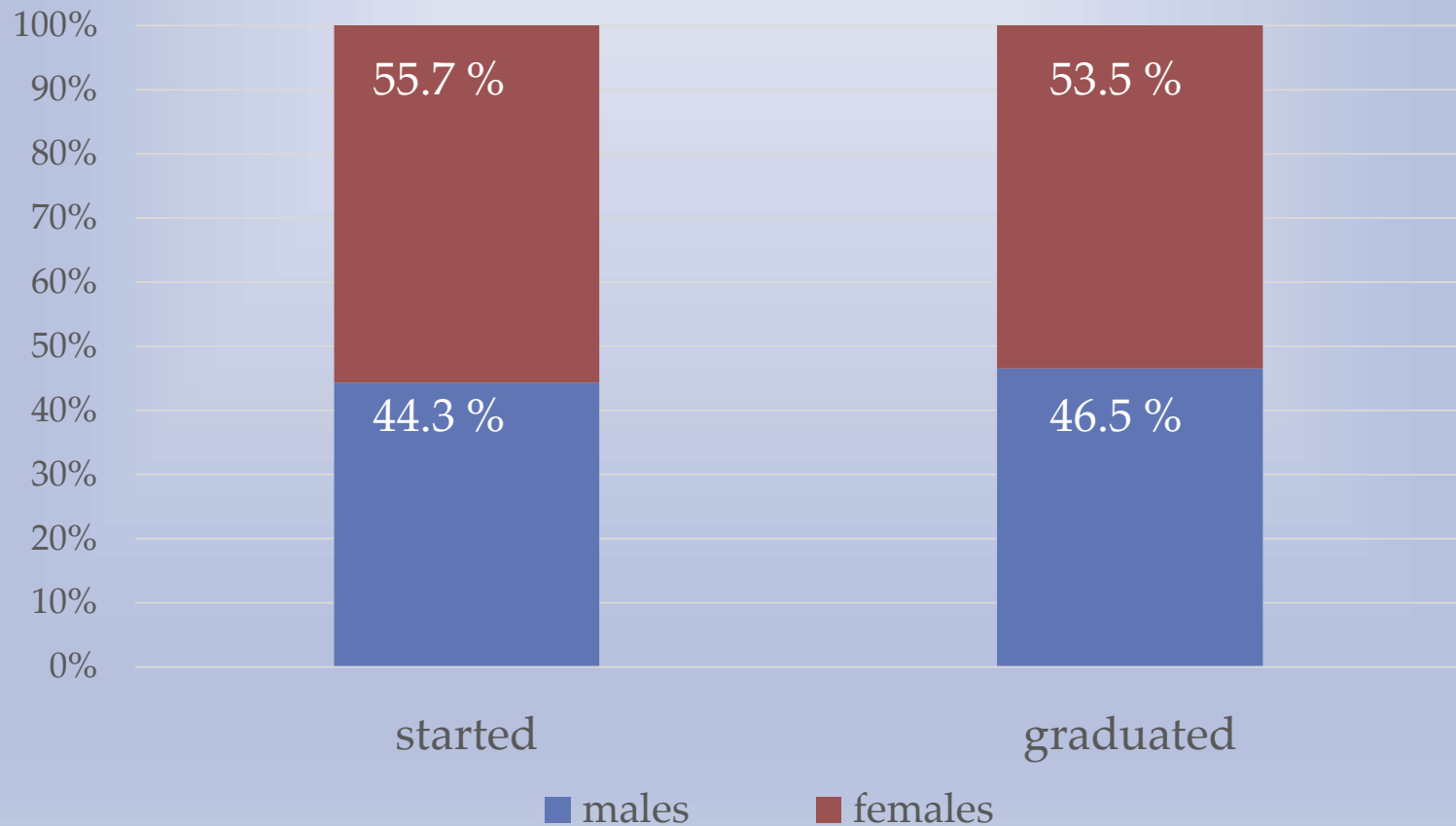
Pharmaceutical Sciences: Pharmaceutical Marketing and Management option

Nutritional Science: Nutrition and Wellness option.

These will be great options for Biology and Applied Health students at NECC as well.

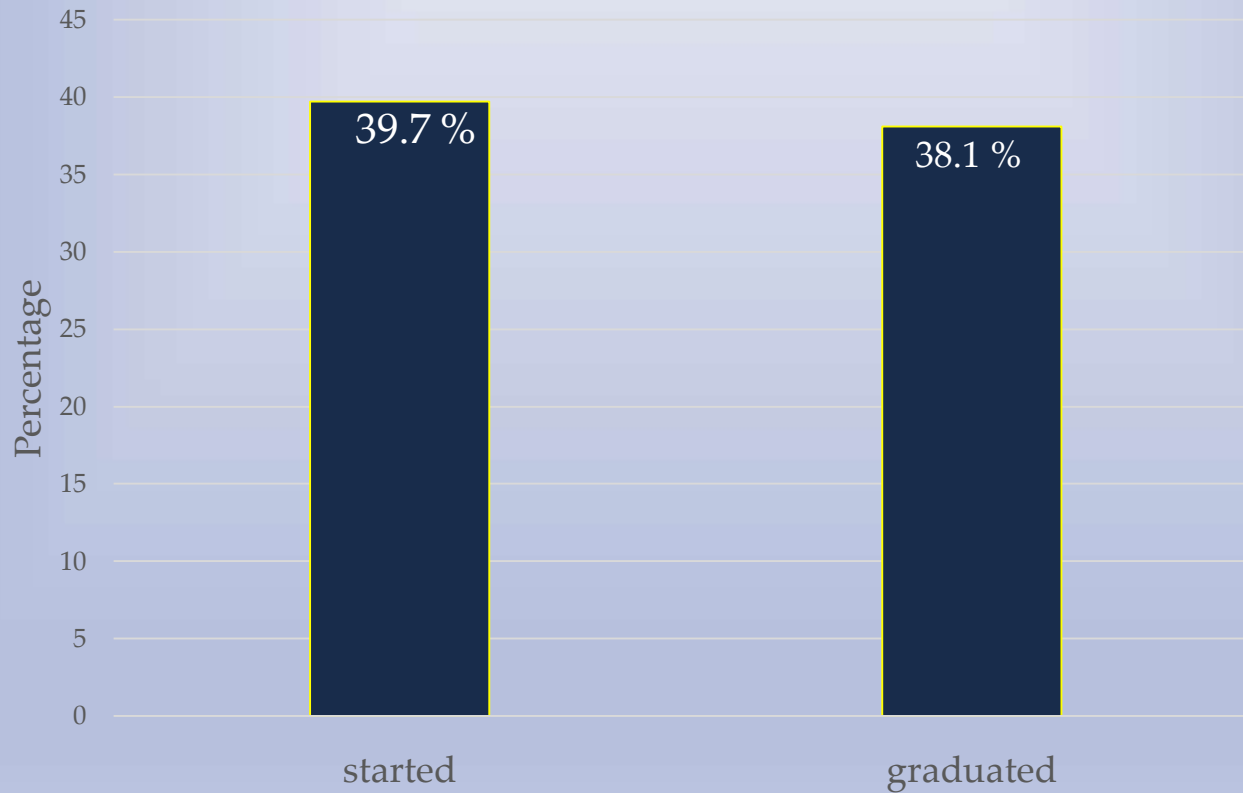
# Program Strength: Diversity

Representation and success of males and females in the Lab Science program (2012-2019)



# Program Strength: Diversity

Minority student representation and retention in the Lab Science program.



# Challenge:

## More Effective Recruitment

Goal: Increase SCI105 enrollment to 30 students

- generally lose ~50% of students from Fall semester 1 to Spring semester 1
- only  $\frac{1}{4}$  due to academics
- $\frac{3}{4}$  of losses are beyond our control

# Challenge: More Effective Recruitment

Goal: Increase SCI105 enrollment to 30 students

## Strategy:

1. Continue to participate in all open houses and promotional events.
2. Maintain active Facebook page; “boost” interesting posts each semester to reach more people in the surrounding areas.
  - the last four posts, we reached 4,067 people and received 201 post-engagements (likes, comments, and shares), and 56 clicks.
3. Lab Science faculty will introduce the program to College Chemistry, Physiological Chemistry, and Biology students
4. We put together a hallway bulletin board in the science building highlighting the job placement success of the program and transfer opportunities.  
We will be updating this board to include advising materials and the additional transfer opportunities that are available at UMass-Lowell and Rivier.



# Challenge: Soft-Skill Development

Soft skills have always been a priority for our advisory board

## History of soft skills in Lab Science curriculum

1. SCI104 Topics in Lab Science was originally part of the program and was Where we developed soft skills.
2. SCI103 Success in Science Seminar was taught in conjunction with SCI104
3. SCI103 and SCI104 were removed in support of the campus-wide FYS initiative.
4. While a good idea, FYS didn't work out for our program

# Challenge: Soft-Skill Development

Soft skills have always been a priority for our advisory board

Currently:

- Incorporating needed soft-skills training into Lab Science classes throughout the two years of the program.
- Proving to be difficult; will continue to work as a team to incorporate the skills throughout the program.
- Require students to attend workshops at the career center to help bridge the gap.

# Challenges:

## Meet Changes to Industry Needs

Recent trend in Associate level jobs in science: QA/QC positions

To make our students more competitive for these jobs, we want to incorporate QA/QC into our curriculum by adding a one semester QA/QC course.

Asked our Advisory Board and they were very enthusiastic:

*We like these ideas so much we are incorporating these into on our annual training.*

*It's exciting that you are considering this course in Laboratory QA/QC;  
I do think that it could be very useful,*

*I would be interested in possibly sending my Techs to this.*

Working with Jay Fallon to adapt the existing course EST141.  
-his changes were approved in March.



# Thank you!

- Lab Science faculty
- Our program administrators past and present
- Lab Science Advisory Board
- NECC Leadership for continued support
- All of you for listening

