Fall 2018 Program Advisory Meeting Minutes

Program: Biotechnology
October 18, 2018
Location of Meeting: Main Dining Area & Room D016 at Essex North Shore Agricultural & Technical High School

Guest Attendees:
Arlyssa LaPorte - Essex Tech (Facilitator, Instructor)
Deb O'Reilly - Essex Tech (Instructor)
Attendees:
Laura Rubin - NSCC (retiring Chair)
Gene Wong - Endicott College
Brianne Hantzis - Industry Rep. Skyhawk
Kalomira Kalaitzis - VWR Sales Rep
Jacob Alden - Cell Signalling Technologies & Essex Alum
Alana Arangio - Industry Rep. Sanofi
Louise Kao - Student, Essex Tech (class of 2020)
Luzmelix Severino - Student, Essex Tech (class of 2020)
Natalie Pilon - Illumina, sitting in for Frankie Gwynne
Jeff Jacques - EMSL Analytical, Salem, Parent (New Chair)
John Delyani - Tmunity
Jillian Mason - Cell Signalling Technologies

Agenda Items:

- **Attendance sign in sheet -** was circulated and signed by all. (in red folder)
- **Spring 2018 PAC Meeting Minutes -** were read and accepted.
- **Curriculum Bias Checklist** was completed (in red folder)
- **Spreadsheet form of contact information -** was circulated and corrections were made. (in red folder)
- **Review Laboratory Facilities & Equipment -** We discussed the new Illumina iseq 100 instrument and how we plan to obtain training and implement use of instrument for sequencing in our curriculum. We will be in contact with Illumina eduseek (Anne is our contact person) for training resources, and we will set up some learning time at Endicott in January to do some library preps and a run. (Endicott currently seeking a new lab coordinator). There are some powerpoint and video training on eduseek. The instrument can do a depth of 4 million and 2X 250 bp, cartridges have a one time use. We listed all the equipment that we have for committee to think on what other equipment we should include in program. It was mentioned that having only one -80 freezer could pose as an issue if it goes down so we should invest in a backup (even if we get a used one, but we would have to check on rules for used freezers). We should also look into getting an alarm to alert us if the freezer has a temp drop or goes down so we can rescue our frozen stocks before they thaw. Thermofisher has a monitor/alarm system

that has an app for phones (instrument connect) so temp can monitored real time, and notifications can be set to alert user if temp drops below a certain threshold. We will look into this. We could potentially apply for a grant through VWR. Another piece of equipment that is being used more in industry is Biology 3D printers, Kalomira knows of a demo happening on October 30 at Quincy College, she will see if we could get an invite. Robotics are being used more in industry, so some robotic programming would be advantageous for our students. We currently do not have any Fluorescence microscopy capabilities, but we may be able to get a demo through VWR, and cell signalling may be able to provide some antibodies to use on our CHO cells. We discussed ELN (electronic lab notebooks) and that introducing them into the program would benefit students. Benchling is one that is browser based. We may be able to have Essex students program our own, perhaps something can can be shared through google drive or a drop box.

- **Annual Programmatic Review -** Was read and completed by members - new Chair (Jeff Jacques, signed off)
- **Data Review -** Laura Rubin shared some data that was discussed at the general advisory meeting about MCAS
- **National Program Standards -** We discussed the idea of getting some certifications or credentials for our students. Asked about the biotech certificate (BCE) that is offered by Florida that includes a written exam and lab exam, it may not be recognized in MA, and even if it was, biotech companies may not care. We can see if the NSF has some certification. Some fringe credentials/certifications that may be advantageous and attainable are RCRA Certification (annual), safety partners offers this course online. DOT certification for signing off on hazardous manifests. IBC (Institutional Biosafety Committee) Course (3 I's) - MSMR offers this course for shipping cells. Natick - LSI (lab safety Institute) CHO certification. IATA - Online course including Saf T pak for shipping hazardous & Biological materials.
- **Review Course of Study -** A component where Data integrity and FDA expectations and initiatives to reduce deviations and human error would be a worthy addition. Check out book *Rigormortis* which delves into reproducibility. We would like to collaborate with IT and advanced manufacturing to learn some basic programming language like Python so students can learn to program instrumentation.
- **Student enrollment & placement -** The program has seen an increase in enrollment: Class of 2019 has 13 students, Class of 2020 has 13 students, Class of 2021 has increased to 18 students and based on student feedback from exploratory we anticipate high numbers for our freshman class. At this time we have no students on co-op or in internships but we have made a list of opportunities available to students and we anticipate spring placement in internships for 2-3 seniors and possibly a few juniors. Jill Mason has been in discussions with HR and management at CST to try and establish a pipeline for interns.

- **New Trends in Occupational Areas -** See Review of Lab facilities & Equipment
- **Employment Outlook -** Employment opportunities continue to grow for grads. Brianne mentioned that her CSO said they may be willing to take on an intern.
- **New Business -** Laura Rubin will step down as PAC Chair, Jeff Jacques will step in for this year.
- **Recommendations -** Possibly reach out to Tufts University. They have a world renowned pharmacoeconomics program. They may also have some ideas to get program certifications or add weight to the Essex Biotech CTE education.