2016-2017 Assessment Cycle

Key Findings

Finding per Measure

Laboratory Science Technology AAS/AOS Program Outcome Set

1. Develop and document appropriate laboratory safety skills, quality control, technical communication, and professional readiness

Student Learning Outcome: a. Apply safety regulations and protocols and correctly utilize safety equipment

Measure: Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material in LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least “2” (“acceptable/meets entry level professional standards”) on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) of the students performed at or above the benchmark for safety-related skills in the General Skills and Professional Competence sections.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	The concerted effort to have emphasize safety in the work place has succeeded (100% completion and understanding) for the last 9 years. Continued effort to emphasis safety will continue in LST coursework. Safety demonstrations will be evaluated and improved to make an impactful impression for safety.
Reflections/Notes :	Whereas safety training was provided as part of class activities and only assessed internally in previous academic years,starting this year all first-year LST students were required to complete the online laboratory safety training offered by RIT. It will be emphasized that all second-year LST students should take the RIT on-line safety certificate. This activity will help students refresh safety knowledge and see industry standards of yearly safety training updates. The effort to emphasize safe work practices will continue with an ultimate goal of 100%. We believe the safety at work benchmark should be 100% every year to assure student safety in any laboratory as this skill is critical in

course work, on co-op, and in future jobs.

Student Learning Outcome: b. Demonstrate adherence to quality control procedures

Measure: Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material in LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) students performed at or above the benchmark for Quality Control-related skills in the General Skills and Professional Competence sections.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Topics related to quality control will continue to be emphasized in the LST program.
Reflections/Notes :	The benchmark for Quality Control was exceeded for the 2016-2017 graduating class. Our continued efforts to support this benchmark will be continued.

Student Learning Outcome: c. Demonstrate effective technical communication of results

Measure: Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material in LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) of the students performed at or above the benchmark for safety-related skills in the General Skills and Professional Competence sections.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Technical communication will continue to be emphasized in the LST program course work. Various types of technical communication styles will be discussed by the LST faculty to present more diverse communication modes.
Reflections/Notes :	The LST program has exceeded the bench mark for technical communication. Our continued efforts to support this benchmark will be continued. Poster presentations were added to Laboratory Tools to introduce students on technical poster techniques.

Student Learning Outcome: d. Develop a professional resume

Measure: Laboratory Methods Course [NLST-260]- Resume in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of resume found in the LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually

Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260]- Resume in the LST Portfolio

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) of the students performed at or above the benchmark for safety-related skills in the General Skills and Professional Competence sections.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our students' interview skills need to be improved. We have endeavored to add mock interviews before the NTID Career Fair, but we will need to develop this practice further to give students additional support in this area.
Reflections/Notes :	An evening review to practice interviews was added the week of the NTID Career Fair. This review was to help those who were chosen for an interview following the event. This extra practice helped students be more prepared for the last minutes interviews they were given. Resumes are reviewed fall and spring semester to proofread content and ensure resume formats are varied between students. Continued professional resume development has been made a priority for our students. Successful placement of LST students, in co-op or future professional positions, depends on successful resume development.

2. Demonstrate use of analytical instrumentation including: electroanalytical, spectroscopy, and chromatography instruments

Student Learning Outcome: a. Demonstrate processes and procedures to set-up, run, and maintain selected electroanalytical probes/meters

Measure: Quantitative Instrumental Analysis Course [NLST-250] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material found in the LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least “2” (“acceptable/meets entry level professional standards”) on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually

Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Quantitative Instrumental Analysis Course [NLST-250] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve LST students in the Laboratory Methods course were evaluated in academic year 2016-2017 and all (100%) of the students performed at or above the benchmark.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our program will continue to emphasize the use of electroanalytical probes throughout the laboratory experiments in the Quantitative Instrumental Analysis course.
Reflections/Notes :	

Student Learning Outcome: b. Demonstrate how to set-up, run, and maintain selected molecular spectrophotometers

Measure: Quantitative Instrumental Analysis Course [NLST-250] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material found in the LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least “2” (“acceptable/meets entry level professional standards”) on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Quantitative Instrumental Analysis Course [NLST-250] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve LST students in the Laboratory Methods course were evaluated in academic year 2016-2017 and all (100%) of the students performed at or above the benchmark.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our program will continue to emphasize the use of molecular spectrophotometers throughout the laboratory experiments in the

Quantitative Instrumental Analysis course.

Reflections/Notes :

Student Learning Outcome: c. Demonstrate how to set-up, run, and maintain selected atomic spectrophotometers

Measure: Quantitative Instrumental Analysis Course [NLST-250] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material found in the LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Quantitative Instrumental Analysis Course [NLST-250] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve LST students in the Laboratory Methods course were evaluated in academic year 2016-2017 and all (100%) of the students performed at or above the benchmark.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our program will continue to emphasize the use of atomic spectrophotometers throughout the laboratory experiments in the Quantitative Instrumental Analysis Course.
Reflections/Notes :	

Student Learning Outcome: d. Demonstrate how to set-up, run, and maintain High Performance Liquid Chromatographers

Measure: Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material in LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve LST students in the Laboratory Methods course were evaluated in academic year 2016-2017 and all (100%) of the students performed at or above the benchmark.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our program will continue to emphasize the use of High Performance Liquid Chromatographers throughout the laboratory experiments in the Chemical Separations & Chromatography course.
Reflections/Notes :	

Student Learning Outcome: e. Demonstrate how to set-up, run, and maintain Gas Chromatographers/Gas Chromatographer – Mass Spectrometers

Measure: Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material in LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve LST students in the Laboratory Methods course were evaluated in academic year 2016-2017 and all (100%) of the students performed at or above the benchmark.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our program will continue to emphasize the use of Gas Chromatographers/Gas Chromatographer-Mass Spectrometers throughout the laboratory experiments in the Chemical Separations & Chromatography course.
Reflections/Notes :	

3. Demonstrate processes involved in volumetric & gravimetric analyses including: sample preparation, titrations, & gravimetric techniques

Student Learning Outcome: a. Perform sample preparation procedures and the corresponding calculations

Measure: Analytical Chemistry Course [NLST-220] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material found in the LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least “2” (“acceptable/meets entry level professional standards”) on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Analytical Chemistry Course [NLST-220] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) students performed at or above the benchmark for sample preparation-related skills in the Volumetric/Gravimetric Analysis section.
Results:	Acceptable Benchmark Achievement: Exceeded

Recommendations :	Our program will continue to emphasize these skills in coursework to maintain a high level of student competence.
Reflections/Notes :	Students continue to perform exceedingly well in skills related to Volumetric/Gravimetric Analysis. Skills in this category are considered to be an expected level of bench skills for individuals entering this field of work.

Student Learning Outcome: b. Perform gravimetric procedures and the corresponding calculations

Measure: Analytical Chemistry Course [NLST-220] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material found in the LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Analytical Chemistry Course [NLST-220] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) students performed at or above the benchmark for gravimetric procedures and corresponding calculations in the Volumetric/Gravimetric Analysis section.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our program will continue to emphasize these skills in coursework to maintain a high level of student competence. Faculty will endeavor to work more closely with students to guide timely submissions of evidence of demonstrated skills to their portfolios.
Reflections/Notes :	Students continue to perform exceedingly well in skills related to Volumetric/Gravimetric Analysis. Skills in this category are considered to be an expected level of bench skills for individuals entering this field

of work.

Student Learning Outcome: c. Perform acid/base titrations and the corresponding calculations

Measure: Analytical Chemistry Course [NLST-220] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material found in the LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Analytical Chemistry Course [NLST-220] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) students performed at or above the benchmark for Titrametric-related skills in the Volumetric/Gravimetric Analysis section.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Our program will continue to emphasize these skills in coursework to maintain a high level of student competence.
Reflections/Notes :	Students continue to perform exceedingly well in skills related to Volumetric/Gravimetric Analysis. Skills in this category are considered to be an expected level of bench skills for individuals entering this field of work.

4. Demonstrate biological & biotechnology-related techniques including: sterile technique & manipulation of proteomic & genomic material

Student Learning Outcome: a. Demonstrate appropriate use of sterile technique

Measure: Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material in LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in Biotechnology I (NLST-240) and Biotechnology II (NLST-245) were evaluated during the 2016-2017 academic year. Most (92%) of the students performed at or above the benchmark for demonstration of appropriate use of sterile technique.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	All of the lab activities reviewed involved students' development of skills regarding the proper aseptic handling of biological materials that have already been prepared, but our students do not receive formal training in the initial preparation of sterile media/reagents. This might be accomplished by replacing one of the current activities used in these two courses, but is currently not feasible due to the time constraints of the lab periods. One or more of the activities might be expanded to include the opportunity for students to prepare the sterile reagents that will be used.
Reflections/Notes :	The ability of each student to demonstrate the use of a sterile technique was determined using the lab activity indicated below. "Yes" indicates that a given student successfully demonstrated this technique during the experiment. Student 1: Bacterial Transformation with S3 (Biotechnology I NLST-240) - Yes Student 2: Disk Diffusion Test (Biotechnology I NLST-240) - Yes Student 3: Disk Diffusion Test (Biotechnology I NLST-240) - Yes Student 4: Gram Staining (Biotechnology I NLST-240) - Yes Student 5: Gram Staining (Biotechnology I NLST-240) - Yes Student 6: Gram Staining (Biotechnology I NLST-240) - Yes Student 7: Bacterial Transformation with pGLO (Biotechnology II NLST-245) - Yes Student 8: Gram Staining (Biotechnology I NLST-240) - Yes Student 9: Bacterial Transformation with pGLO (Biotechnology II

NLST-245) - Yes
Student 10: Quantifying Bacterial Numbers (Biotechnology I NLST-240) - No
Student 11: Quantifying Bacterial Numbers (Biotechnology I NLST-240) - Yes
Student 12: Bacterial Transformation with S3 (Biotechnology I NLST-240) - Yes

Student Learning Outcome: b. Perform proteomic and genomic manipulation techniques

Measure: Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Course level; Direct - Portfolio

Details/Description:	Review of laboratory reports and ancillary course material in LST Portfolio
Acceptable Benchmark:	80% of all students will obtain a score of at least "2" ("acceptable/meets entry level professional standards") on all related items on the Laboratory Science Technology portfolio rating sheet.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Lab Reports and Ancillary Course Material in the LST Portfolio

Summary of Findings:	Twelve students in the 2 courses listed above were evaluated during the 2016-2017 academic year. Most (92%) of the students performed at or above the benchmark for performing proteomic and genomic manipulation techniques.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Lab techniques related to genomic material included purifying plasmid DNA, quantitating plasmid DNA, copying plasmid DNA (PCR), enzymatic digestion of plasmid DNA (Forensic fingerprinting) and injecting plasmid DNA into bacteria (transformation). Proteomic manipulation methods were less prevalent (only taught in the second semester NLST-245) but included gel electrophoresis of whole-cell proteomic material (SDS-PAGE). Other curricular materials are being sought that expand the number of proteomic manipulation activities.

Reflections/Notes :	The ability of each student to demonstrate the use of proteomic and genomic manipulation techniques was determined using the lab activity indicated below. "Yes" indicates that a given student successfully demonstrated this technique during the experiment. Student 1: Purification of S3 and pGLO (Biotechnology II NLST-245) and SDS-PAGE of Fish Muscle (Biotechnology II NLST-245) - Yes Student 2: Forensic DNA Fingerprinting (Biotechnology I NLST -240) - Yes Student 3: Forensic DNA Fingerprinting (Biotechnology I NLST-240) and Bacterial Transformation with S3 (Biotechnology I NLST-240) - Yes Student 4: Bacterial Transformation with S3 (Biotechnology I NLST-240) and SDS-PAGE of Fish Muscle (Biotechnology II NLST-245) - Yes Student 5: DNA Quantitation (Biotechnology II NLST-245) - Yes Student 6: Bacterial Transformation with pGLO (Biotechnology II NLST-245) and SDS-PAGE of Fish Muscle (Biotechnology II NLST-245) - Yes Student 7: DNA Quantitation (Biotechnology II NLST-245) - Yes Student 8: DNA Quantitation (Biotechnology II NLST-245) - Yes Student 9: DNA Quantitation (Biotechnology II NLST-245) - Yes Student 10: STR-PCR Analysis (Biotechnology II NLST-245) - Yes Student 11: Bacterial Transformation with pGLO (Biotechnology II NLST-245) - Yes Student 12: SDS-PAGE of Fish Muscle (Biotechnology II NLST-245) - No

5. Develop professional skills required to be effective on the job

Student Learning Outcome: a. Engage productively in a collaborative team project

Measure: Laboratory Methods Course [NLST-260] - Team Project
Course level; Indirect - Other

Details/Description:	
Acceptable Benchmark:	80% of students will score “3” or higher on a rubric scale of 1-5.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Team Project

Summary of Findings:	Twelve students in the Laboratory Methods course were evaluated in the 2016-2017 academic year. All (100%) students performed at or above the benchmark for safety-related skills in the General Skills and Professional Competence sections.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	The LST program's course work will continue to emphasis collaborative team work in the LST program's course work. Team work in and outside of the lab is something our program does every week. Our methods will be reviewed and improvements looked for.
Reflections/Notes :	The LST program has exceeded the bench mark for collaborative team work. Our continued efforts to support this benchmark will be continued. A class project, Allelopathy, was added this year. This project involves the whole class writing a procedure, executing an outside and inside lab, and presenting the findings of the activity via a poster presentation.

Student Learning Outcome: b. Accurately and clearly present technical information to peers

Measure: Laboratory Methods Course [NLST-260] - Project
Course level; Direct - Student Artifact

Details/Description:

Acceptable Benchmark:	80% of students will score "3" or higher on a rubric scale of 1-5.
Implementation Plan (timeline):	Annually
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Laboratory Methods Course [NLST-260] - Project

Summary of Findings:	Twelve students on the Laboratory Methods course were evaluated in academic year 2016-2017. All (100%) students performed at or above the benchmark for safety-related skills in the General Skills and Professional Competence sections. The LST program has exceeded the benchmark for technical communication and presentations.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	The LST program's course work will continue to emphasis in accurate and clear technical presentations. Going forward, more group presentations will be added to the Laboratory Tools course. This will

	help to improve team work and technical communication as well. Faculty in our department will be asked to come view these presentations and give constructive feedback to the student teams.
Reflections/Notes :	For the first time, students were required to give a technical presentation as the final exam for Laboratory Tools. This activity is in preparation for adding more such presentations to the course in future terms.

Student Learning Outcome: c. Apply technical knowledge and skills on a co-operative work experience

Measure: Co-op Work Experience [NLST-299] - RIT Supervisor Co-op Evaluation
Course level; Direct - Other

Details/Description:	
Acceptable Benchmark:	80% of the students will successfully complete a program-related work experience and receive a score of "3" or higher (5 point scale) on Overall Co-op Performance
Implementation Plan (timeline):	Annually, end of summer.
Key/Responsible Personnel:	Collected by NTID Center on Employment (NCE)

Findings for Co-op Work Experience [NLST-299] - RIT Supervisor Co-op Evaluation

Summary of Findings:	Of the fifteen students who enrolled in NLST-299 for the Spring and Summer 2017 semesters, 13 completed the co-op requirement during these terms. Regarding the remaining two students, both are currently working to finish the requirement during the Fall 2017 term; the supervisors for both of these students submitted evaluations even though the co-op was not finished. One student was enrolled in separate instances of NLST-299 in each term because of the receipt of an extended internship offer. Therefore, 87% (13 of 15) students completed the co-op requirement during the "preferred" term but 100% are on track to satisfy the requirement by the end of the Fall 2017 academic term. Summary of Supervisor Rating for Overall Student Job Performance (N = 15 (Total)) N = 5 (Rating of 5) N = 9 (Rating of 4)

	N = 0 (Rating of 3) N = 0 (Rating of 2) N = 0 (Rating of 1) N = 1 (Supervisor Evaluation Not Submitted)
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Through collaboration with NTID's Center on Employment, the LST program will continue to place students in summer co-op positions at a high rate although we envision that some students will start and/or complete their internships during the fall and spring terms, partly due to the availability of co-op positions throughout the year and partly due to student preference and availability to work during these times.
Reflections/Notes :	The LST program continues to place a high number of students in various corporate (Dow, Kodak) and academic (Tufts, James Madison University, University of Massachusetts at Amherst, RIT) programs. During this past cycle, students also secured co-op positions through new partners Ohio State University, Lord's Seed (Howe, IN), Mohawk Valley Water Authority, University of Tennessee Knoxville, and Osmotica (Marietta, GA).

Student Learning Outcome: d. Gain entry level employment in the laboratory science field

Measure: NCE Job Placement Data

Details/Description:	
Acceptable Benchmark:	90% of graduates who are seeking employment in the laboratory science field will be employed.
Implementation Plan (timeline):	Annually, Spring semester starting 2016/2017
Key/Responsible Personnel:	Collected by NTID Center on Employment (NCE)

Findings for NCE Job Placement Data

Summary of Findings:	N = 2. Two graduates gained entry level employment in the laboratory science field.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	
Reflections/Notes :	

Student Learning Outcome: e. Assess program preparation and course satisfaction

Measure: Student Satisfaction Survey
Program level; Indirect - Survey

Details/Description:

Acceptable Benchmark:	80% of students will indicate they Strongly Agree or More Agree than Disagree (4-point scale) when asked to give an overall rating on two global items, one related to the program in general and the other related to the courses in the major.
Implementation Plan (timeline):	Annually, Fall semester starting 2015/2016
Key/Responsible Personnel:	Collected by LST Assessment Coordinator or Program Director

Findings for Student Satisfaction Survey

Summary of Findings:	Of the 15 students who enrolled in NLST-299 for the Spring and Summer 2017 terms and who were invited to complete the LST student satisfaction survey, 8 of them completed the survey and submitted it. Of these 8 students, 6 (75%) indicated that they agreed or strongly agreed that they were satisfied with what they learned in the program, one student (12.5%) submitted a response of "neither agree nor disagree", and one student (12.5%) submitted a response of "Disagree". When asked if they would recommend the LST program to other students, 7 (87.5%) of them agreed or strongly agreed with the statement and 1 (12.5%) student chose to neither agree nor disagree.
Results:	Acceptable Benchmark Achievement: Exceeded
Recommendations :	Improving the response rate to this end-of-program survey will be ideal. The difficulty that the program currently faces is that students have no more formal LST courses once they complete the required co-op. Once students come back to campus for the last semester of the program, most of them are completing the technical electives requirement with coursework in RIT's College of Science as well as the liberal arts requirements. In-person contact with these students is therefore not on a regular basis.
Reflections/Notes :	The program continues to receive strong evaluations from students with many positive responses received to subquestions that pertain to helping students decide on career goals, developing problem-solving skills, and using laboratory technology well. Students also felt on the

whole that faculty were available for additional help, that they were prepared for the courses they taught, that LST courses will support their future success, and that the program's equipment and software were up-to-date. From the perspective of the students, the program is therefore working as it was designed and we have a strong set of faculty who are leading their instruction.

Overall Recommendations

No text specified

Overall Reflection

No text specified

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