

Annual Departmental Report 2021-2022

Program Information

Program/Department: Chemistry/ Biology and Chemistry Department
Department Chair: Michael Nosek (chair), Erin Rehrig (interim chair)
Department Assessment Committee Contact: Eric Williams

This document is to be kept in the department and an electronic file is due to the AVP of Institutional Research & Planning by June 1, 2022.

A. Departmental Special Section for AY21-22

Department Lessons Learned and Accomplishments

Chemistry Accomplishments: In the past year, we assessed our students for “Demonstration and application of the concepts of lab safety practices” under PLO3. In addition, the Biology/Chemistry department has undertaken a number of noteworthy initiatives to increase the effectiveness of our program. These include the mapping of career competencies, pursuing the creation of an internship coordinator position, aligning our courses with the new LA&S/Gen Ed program, the application of a number of grants, and a number of initiatives designed to decrease declining enrollments. The Chemistry Program underwent its first program review since its inception. The department will have a formal discussion about the review recommendation in the Fall 2022 retreat.

B. Program Learning Outcomes (PLOs) (Educational Objectives)

I. List of PLOs and the timeline for assessment.

PLO #	PLO – Stated in assessable terms	Where are the learning outcomes for this level/program published? (please specify) Include URLs where appropriate	Timing of assessment (annual, semester, bi-annual, etc.)	When was the last assessment of the PLO completed?
1.	Disciplinary knowledge of topics in foundational chemistry (General Chemistry and Organic Chemistry)	Program assessment plan	Annual	Spring 2019 under the old PLOs. To be assessed in Fall 2022.
2.	Demonstration of, and application of laboratory skills	Program assessment plan	Annual	To assessed in Spring 2023
3.	Demonstration and application of the concepts of lab safety practices	Program assessment plan	Biannual	Spring 2022
4.	Presentation of scientific information in clear and organized manner through written or oral communications	Program assessment plan	Annual	Spring 2021

II. PLO Assessment (Please report on the PLOs assessed and/or reviewed this year. Programs should be assessing at least one each year.)

Using the table below, list and briefly describe the **direct method(s)** used to collect information assessing whether students are learning the core sets of knowledge (K), skills (S) and attitudes (A) identified as essential.

PLO # (from above)	Assessment description (exam, observation, national standardized exam, oral presentation with rubric, etc.)	When assessment was administered in student program (internship, 4th year, 1st year, etc.)	To which students were assessments administered (all, only a sample, etc.)	What is the target set for the PLO? (criteria for success)	Reflection on the results: How was the "loop closed"?
3	Lab Safety/ Chemical hygiene assignment	2nd, 4 th year	All students in the major	90% of students to score >70%	Organic Chemistry I (Fall 2021): All the four students assessed scored 100% of assignments they submitted. Organic Chemistry II (Spring 2022): All the three students that were assessed similarly had a perfect score (100%). Raw data provided in Appendix B.

You may use this comment box to provide any additional information, if applicable:

PLO 4 was not originally scheduled to be assessed in AY 21-22. However, due to course scheduling reasons our Chemistry Seminar Capstone course where PLO 4 is assessed was offered in AY 20-21. The outcome is this assessment was included in the AY20-21 Assessment Report. We assessed PLO 3 in AY 21-22.

Summary of Findings: Briefly summarize the results of the PLO assessments reported in Section II above combined with other relevant evidence gathered and show how these are being reviewed/discussed. How are you “closing the loop”?

Reflection Prompt	Narrative Response
<p>Other than GPA, what data/evidence is used to determine that graduates have achieved the stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)</p>	<p>The Chemistry program revised and expanded the assessed PLOs at a department retreat in the fall 2019. The PLOs were designed to be in accordance with the learning outcomes developed by the American Chemical Society (ACS), which are delineated in Appendix A. We note that we do not undergo a formal review from the ACS. The methods of evaluation are varied and include the completion of lab safety and chemical hygiene assignment, as well as faculty assessment of a Chemistry Seminar Capstone oral presentation the next time it is offered.</p>
<p>Who interprets the evidence? What is the process? (e.g. annually by the curriculum committee)</p>	<p>The department assessment committee evaluates all assessment related matters. The departmental student affairs committee manages the student feedback survey. The annual student feedback survey was administered this year. The results of the survey will be discussed at the Fall 2022 department retreat.</p>
<p>What changes have been made as a result of using the data/evidence? (close the loop)</p>	<p>This is the third year we are assessing PLO 3. While the COVID-19 situation impacted the assessment from previous year’s, we see promising evidence of meeting the objectives especially with students meeting in person. For example, the students scored perfect scores on the PLO 3 assessments.</p>

C. Assessment Plan for Program/Department

- I. Insert the program or department Assessment Plan
- II. Explain any changes in the assessment plan including new or revised PLOs, new assessments that the program/department plans to implement and new targets or goals set for student success.

The Assessment Committee submitted the Chemistry Plan in 2020. There have since been no changes.

- III. If you do not have a plan, would you like help in developing one?

D. Program Review Action Plan or External Accreditation Action Letter/Report

Annual Reflection/Follow-up on Action Plan from last Program Review or external accreditation (only complete the table that is appropriate for your program)

I. Programs that fall under Program Review: Program to complete its first review in 2022

- i. Date of most recent Review: *This program has not been previously reviewed*
- ii. Insert the Action Plan table from your last Program Review and give any progress towards completing the tasks or achieving targets set forth in the plan.

The Chemistry program underwent a program review in AY21-22. The department as a whole will be having a formal discussion of recommendations from the review. However, the Assessment Committee has recommended the below areas as areas that could be improved.

Specific area where improvement is needed	Evidence to support the recommended change	Person(s) responsible for implementing the change	Timeline for implementation	Resources needed	Assessment Plan	Progress Made this Year
Increase enrollment			Ongoing	Funding for outreach programs	Highschool outreach	

			Ongoing	Funding for outreach programs	Community college outreach	
			Ongoing	Funding for scholarships	Creation of student scholarships	
			Ongoing		Increased advertising in collaboration with Richard Toomey's team	
Continue to participate in campus-wide initiatives to retain diverse students.		Student Affairs Committee	Ongoing	SSC Data. Student Survey Data.	Utilization of embedded tutors, additional faculty training, participation on campus-wide committees aimed towards student success. Academic, Personal wellness,	Yes. In Spring 2022, the Students Affairs Committee hosted a workshop on resume and cover letter writing. We have plans to continue with this in the next

					and Career workshops	academic year
Document active-learning and guided inquiry in courses.		Curriculum Committee. Chair of the department.	Ongoing		The department will develop a system of documenting the use of different course delivery mechanisms and STEM best practices.	Yes. We have documented resources and other high impact practices the department used during the pandemic
Aligning Chemistry courses with the current General Education program standards		Curriculum Committee	AY 2021		The committee submitted proposals to allow some of our chemistry courses to be designated appropriate as defined by the new General Education program.	Yes. Proposals are all approved.

Develop an equipment maintenance and replacement plan.		Equipment and Facilities Committee	Ongoing		The equipment and supply budget may have to increase depending on the equipment needed. Plan developed AY2019. Implementation began in AY2020. This action item needs to include technical staff.	Yes. The Equipment and Facilities Committee made some recommendations for purchase/repair of equipment through the EBRQ.
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iii. If you do not have an action plan, would you like help in developing one based on your last program review and needs of the program?

II. Programs with external Accreditation:

- i. Professional, specialized, State, or programmatic accreditations currently held by the program/department.
- ii. Date of most recent accreditation action by each listed agency.
- iii. Date and nature of next review and type of review.

List key issues for continuing accreditation identified in accreditation action letter or report.	Key performance indicators as required by agency or selected by program (licensure, board or bar pass rates; employment rates, etc.)(If required.)	Update on fulfilling the action letter/report or on meeting the key performance indicators.

E. Departmental Strategic Initiatives

Accomplished Initiatives AY 21-22	Corresponding Strategic Plan Goal & Strategy <small>Goal # followed by Strategy # ex: 1.3</small>	Indicate if a Diversity, Equity and Inclusiveness (DEI) Goal
Workforce Development Programming: Academic roadmap/Career competencies mapping (Davis Fdtn/C. Cratsley)	2.5 - Student-ready university - career advising	
Responsive Academic Portfolio: UG-Grad Pathways: LECOM and Husson articulation agreements (<i>Ongoing</i>)	2.5 - Student-ready university - career advising	
Coordination and marketing of internships and careers with Career Center (<i>Ongoing</i>)	2.5 - Student-ready university - career advising	X
Applied Learning: undergraduate research. Especially reaching out to minority students (<i>Ongoing</i>)	2.1 - Student-ready university - cultural shift for underrepresented students	X
Implementation of LA&S/Gen Ed program: Aligning Bio and Chem courses to new LA&S with AUC proposals	NA	

Open Educational Resources: now adopted in both intro Bio classes, some upper level electives, and some non-majors classes	5.7-Affordability	X
Inclusive Excellence for Student Success: With substantial help from the grant center, we are applying for a Balfour grant to provide stipends for student research.	2.1 - Student-ready university - cultural shift for underrepresented students 2.3 - Equity and inclusion	X
Reverse declining enrollment. Faculty outreach to accepted students; Virtual Open Houses, etc. (<i>Ongoing</i>). Held MassBioEd Teacher Workshop on campus. Created a document, "Talking Points for Admissions" and shared with Admissions Staff and departmental faculty as a Google Doc.	5.6 - Marketing	

Planned Initiatives for AY 2021-22 <small>Add more rows as needed</small>	Associated Strategic Plan Goal & Strategy <small>Goal # followed by Strategy # ex: 1.3</small>	Indicate if a Diversity, Equity and Inclusiveness (DEI) Goal
See all "Ongoing" initiatives above for AY'21.		
Focus more on enrollment strategies. Improve 4-year plans with career competencies and Alumni stories. Check our website: how inviting is it? Consider another video with a tour?	5.6 - Marketing	
Coordinate sustainability curriculum across departments. (Initiative with Sustainability Advisory Committee)	4.6 -Promote environmentally sustainable values	

<p>Work with MassLife Sciences (focused on life sciences workforce development) to create internship pipelines, upgrade laboratory equipment, and coordinate curriculum to fulfill demand for industry competencies.</p>	<p>1.2 - Forge innovative paths to career readiness</p>	
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F. Departmental Reflection:

Take this section to reflect on--

- 1) *Initiatives that you may be considering for 22-23 academic year that you did not already capture above.*

Please see Section A above

Appendix A: Program Learning Objectives (PLOs)

PLO 1: Disciplinary knowledge

Students should understand and be able to apply their understanding of all chemistry sub-disciplines and use appropriate laboratory skills and instrumentation to solve problems. These areas of knowledge include:

- Basic chemical concepts such as stoichiometry, states of matter, atomic structure, molecular structure and bonding, thermodynamics. Equilibria, and kinetics.
- Foundational knowledge and skills in analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry.
- Foundational laboratory skills including synthesis of molecules, measurement of chemical properties, determination of structures, use of modern instrumentation and computational modeling.

PLO 2: Lab skills

Students should be able to demonstrate and apply foundational laboratory skills. The areas of skills include:

- Basic laboratory skills such as keeping a notebook, use of electronic balances and volumetric glassware, preparation of solutions, chemical measurements using pH electrodes and spectrophotometers.
- Prepare solutions, record data correctly, and perform chemical synthesis and analysis of compounds, as well as use standard laboratory equipment and programs to solve problems.

PLO 3: Safety

Students should be able to demonstrate and apply their understanding of the concepts of safe lab practices, and be able to evaluate and assess safety risks associated with laboratory experiences. Students must be able to:

- Carry out responsible disposal techniques
- Comply with safety regulations
- Properly use personal protective equipment to minimize exposure to hazards
- Recognize chemical and physical hazards in laboratories, assess the risks from these hazards, know how to minimize the risks, and prepare for emergencies.
- Understand the categories of hazards associated with chemicals (health, physical, and environmental)
- Use Safety Data Sheets (SDSs) and other standard printed and online safety reference

PLO 4: Communication skills

Students should be able to present information in a clear and organized manner, write well-organized and concise reports in a scientifically appropriate style, and use relevant technology in their communications.

Appendix B - Lab Safety Assessment – Fall 2021 and Spring 2022

General Primer:

Students submit lab reports for each experiment that they complete during the term. Each lab report comprises several sections such as experimental procedure, calculations, analysis and discussion of results, safety questions and post-lab questions. Even though the raw total points for each lab report varies depending on the number of post lab questions and depth of calculations and analysis, all lab reports are treated equally while computing the overall lab grade and are worth 25 points. Students need to look up the Safety data sheet for the chemicals in the safety question and report their safety hazards.

In the table shown below, the raw total for each lab report is indicated along with the experiment number and the safety grade obtained by each student is indicated in the respective columns.

Fall 2021 Organic Chemistry I Lab Safety Grades (Chem majors only):

Student	Lab-1 (Total points:30 Safety : 2)	Lab-2 (Total points:27 Safety : 3)	Lab-5 (Total points:31 Safety : 3)	Lab-6 (Total points:25 Safety : 2)	Lab-8 (Total points:25 Safety : 3)	% Average ϕ
A	2	3	3	2	3	100
B	2	3	3	2	3	100
C	2	0*	3	2	3	100
D	2	3	0*	0*	0*	100

There were no safety questions for labs 3, 4, 7 and 9.

**- No lab report was submitted in this case.*

ϕ- Calculated based on only reports submitted.

Spring 2022 Organic Chemistry II Lab Safety Grades (Chem majors only):

Student	Lab-1 (Total points:22 Safety : 5)	Lab-2 (Total points:24 Safety : 1)	Lab-4 (Total points:25 Safety : 3)	Lab-5 (Total points:31 Safety : 2)	Lab-7 (Total points:33 Safety : 2)	Lab-8 (Total points:39 Safety : 2)	% Average ^ϕ
A	5	1	3	2	2	2	100
B	5	1	3	2	2	2	100
C	0*	1	3	0*	0*	2	100

There were no safety questions for labs 3 and 6.

**- No lab report was submitted in this case.*

ϕ- Calculated based on only reports submitted.

Outcome of Assessment:

During the Fall 2021 and Spring 2022 semester, the chemistry majors that were assessed on PLO 3 obtained perfect scores, well above the 70% average bench mark.

Appendix C – Assessment Plan



Programmatic Assessment Plan

Program Name: Chemistry

Created By: Assessment Committee

Date: May 20, 2020

School of Health and Natural Sciences Mission

The mission of the School 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.

Department of Biology and Chemistry Mission

The Biology and Chemistry Department believes that every student deserves a first-class education. We are educators at Fitchburg State because our personal values align with the campus values of equity and excellence. We strive to ensure that our students have the best of what we can offer them as they gain an in-depth knowledge of science that is part of a larger interdisciplinary, multicultural liberal arts and sciences education. In order to achieve our mission, we undertake to:

- Produce students who are well prepared for diverse careers or advanced study in the biological and chemical sciences or related disciplines as well as gain the skills necessary to successfully adapt to future changes within their disciplines.
- Build lasting relationships with students that will advance their professional growth by recognizing the unique needs of each individual and reflecting our passion for engagement in authentic learning experiences.
- Maintain a high level of scholarly activity in a variety of fields associated with biology, chemistry and science education.
- Serve the needs of the university and specific academic departments through our curricular offerings and involvement in the university community.
- Endeavor to demonstrate leadership as stewards of the environment.
- Provide state of the art pedagogical approaches as well as utilize appropriate equipment, technology, and resources for teaching, learning and research in the sciences and science education.
- Work to support the University's mission of providing leadership and support for the economic, environmental, social, and cultural needs of North Central Massachusetts and the Commonwealth.

PART I: STUDENT LEARNING OUTCOMES

University Level

ILP Code	Institutional Learning Priorities (ILPs)
ILP 1	<p>Graduates have a deep understanding of the world. <i>Accomplished through:</i> ILP 1A. Foundational Skills and Disciplinary Breadth – Students will demonstrate attainment of the Learning Outcomes of the Liberal Arts and Sciences program. ILP 1B. Mastery in a Defined Body of Knowledge – Students will attain the specialized academic objectives of their major or program. ILP 1C. Engagement with Campus and Community – Students will develop personal and professional skills, goals, and ethical standards of behavior through co-curricular experiences.</p>
ILP 2	<p>Graduates know how to learn and how to apply their knowledge. <i>Accomplished through:</i> ILP 2A. Creative and Critical Thinking – Students will use evidence and context to increase knowledge, reason ethically, assess the quality of information, solve problems, and innovate in imaginative ways. ILP 2B. Effective Communication – Students will carefully consider and clearly articulate ideas for a range of audiences and purposes in written, spoken, technology-mediated, visual, or other forms of communication. ILP 2C. Integrative Learning – Students will apply their breadth and depth of knowledge, skills, and experience to address complex issues.</p>

ILP 3

Graduates are engaged citizens who demonstrate integrity and continuous personal growth.

Accomplished through:

ILP 3A. Respect for People and Cultures – Students will appreciate the contributions and needs of diverse individuals and groups and understand themselves in solidarity with others locally, nationally, and globally.

ILP 3B. Civic Participation in Wider Communities – Students will demonstrate their ability to work within and across communities, to apply their knowledge in the service of others, and to promote social justice.

ILP 3C. Continuous Learning and Personal Growth – Students will approach the world with confidence and curiosity, appreciate the complex identities of themselves and others, and reflect critically on their experiences throughout life to make informed choices that advance their own well-being and that of the larger community.

**Liberal Arts & Science Learning Outcomes (LA&S LOs)
General Education Curriculum**

LO Code	LA&S Learning Outcomes (LA&S LOs)	Alignment to ELOs
LA&S 1	LA&S LO1: Objective 1.1	

Division Learning Outcomes (DLOs)

LO Code	Division Student Learning Outcomes	Alignment to LA&S LOs or ELOs
DIV 1	DIV LO1: Objective 1.1	

Department Learning Outcomes

LO Code	(Department Name) Learning Outcomes (LOs)	Alignment to Division/LA&S LOs or ELOs
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Program Learning Outcomes (PLOs)

LO Code	(Program Name) Learning Outcomes (LOs)	Alignment to Department/Division/LA&S LOs or ELOs
PLO 1	<p>Disciplinary knowledge</p> <p>Students should understand and be able to apply their understanding of all chemistry sub-disciplines and use appropriate laboratory skills and instrumentation to solve problems. These areas of knowledge include:</p> <ul style="list-style-type: none"> ● Basic chemical concepts such as stoichiometry, states of matter, atomic structure, molecular structure and bonding, thermodynamics, equilibria, and kinetics. ● Foundational knowledge and skills in analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. ● Foundational laboratory skills including synthesis of molecules, measurement of chemical properties, determination of structures, use of modern instrumentation and computational modeling. 	
PLO 2	<p>Lab skills</p> <p>Students should be able to demonstrate and apply foundational laboratory skills. The areas of skills include:</p> <ul style="list-style-type: none"> ● Basic laboratory skills such as keeping a notebook, use of electronic balances and volumetric glassware, preparation of solutions, chemical measurements using pH electrodes and spectrophotometers. ● prepare solutions, record data correctly, and perform chemical synthesis and analysis of compounds, as well as use standard laboratory equipment and programs to solve problems. 	
PLO 3	<p>Safety</p> <p>Students should be able to demonstrate and apply their understanding of the concepts of safe lab practices, and be able to evaluate and assess safety risks associated with laboratory experiences. Students must be able to:</p> <ul style="list-style-type: none"> ● Carry out responsible disposal techniques ● Comply with safety regulations ● Properly use personal protective equipment to minimize exposure to hazards 	

- Recognize chemical and physical hazards in laboratories, assess the risks from these hazards, know how to minimize the risks, and prepare for emergencies.
- Understand the categories of hazards associated with chemicals (health, physical, and environmental)
- Use Safety Data Sheets (SDSs) and other standard printed and online safety reference

PLO 4

Communication skills

Students should be able to present information in a clear and organized manner, write well-organized and concise reports in a scientifically appropriate style, and use relevant technology in their communications.

PART II: CURRICULUM MAPPING

Instructions

- Add the “required” courses in the left column starting with First Level to Upper Level.
- Add Program Learning Outcomes as a header for each column
- Add one number per cell to indicate the level at which the outcome is addressed in the course (see key below).
- Add an “A” in cells to indicate an assessment activity from the course will be used in Program Assessment.
- Focus should be only the required courses for all majors in the field of study. An additional table should be created for concentrations to map the additional learning outcomes, if necessary.

COMMON (Program Name) CORE

	PLO 1	PLO 2	PLO 3	PLO 4
CHEM 1300 <i>G Chem I</i>				0
CHEM 1400 <i>G Chem II</i>	1	1	1	0
CHEM 2000 <i>O Chem I</i>	1	2	2A	1
CHEM 2100 <i>O Chem II</i>	1	2A	3A	1

CHEM 2400 <i>Analytical</i>				2
CHEM 3030 <i>Biochem</i>	2	0	0	2
CHEM 3200 <i>P Chem</i>	3	3	3	3
CHEM 3600 <i>Inorganic</i>	3	0	0	3
CHEM 4750 <i>Seminar</i>	3A	0	3A	3A

0	1	2	3	A
Not Addressed	Introducing	Broadening	Fulfilling	Assessed for Program

Key

PLO = Program Learning Outcome

Not Addressed = PLO is not addressed within the specific course

Introducing = PLO is covered at an introductory level within the specific course

Broadening = PLO is covered in the course so as to reinforce the students' learning of it within the specific course

Fulfilling = Demonstration of proficiency of the PLO occurs within the specific course

Assessed for Program = There will be a Direct Assessment activity to be used in Program Level

Assessment in all sections of this course.

PART III: ASSESSMENT MEASURES, TIMELINES AND TARGETS

Direct Assessment

Using the table below, list and briefly describe the **direct method(s)** used to collect information assessing whether students are learning the core sets of knowledge (K), skills (S) and attitudes (A) identified as essential.

PLO #	Assessment description (written project, oral presentation with rubric, etc.)	Timing of Assessment (annual, semester, bi-annual, etc.)	When assessment is to be administered in student program	To which students will assessments be administered (all, only a sample, etc.)	What is the target set for the PLO? (criteria for success)
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			(internship, 4 th year, 1 st year, etc.)		
1	Capstone exam	Annual	Junior or senior year	All students in the major	90% of students to score > 50% 80% of students to score > 70% Aggregate student performance in subject areas monitored.
2	Embedded exam questions	Annual	Sophomore and junior years	All students in the major	90% of students to score > 70%
3	I. Embedded pre-lab questions II. Chemical hygiene assignment*	Annual	Sophomore and senior year	All students in the major	I. 90% of students to score >70% II. 95% of students to score > 90%
4	Oral presentations	Annual	Junior/senior year	All students in the major	A majority of students should demonstrate a proficiency on oral presentations by attaining a score > 2 (sufficient)

*Note: I and II are independent assessments; i.e., not a pre-/post-test combination

Indirect Assessment

Using the table below, list and briefly describe the **indirect method(s)** used to supplement direct measures above.

- Indirect measures include, but are not limited to: student surveys, focus groups, meetings with advisory boards, employer feedback, internship feedback, alumni surveys, etc.

PLO #	Assessment description (survey, focus group, interviews, etc.)	When assessment is to be administered	Who will give indirect feedback	Criteria for Success or Goal to be Achieved
1	Student feedback survey	Annual	Dept. Student Affairs Committee	Qualitative indicator for PLO 1

PART IV: ASSESSMENT CYCLE TIMELINE

Explanation:

- ☐ Programmatic student learning outcomes are assessed on a five-year cycle, which means each one is to be FULLY analyzed at least once in a five-year period.

Five-Year Assessment Plan

Program Learning Outcome	Year 1 AY 20-21	Year 2 AY 21-22	Year 3 AY 22-23	Year 4 AY 23-24	Year 5 AY 24-25
PLO 1	x			x	
PLO 2	x		x		
PLO 3	x				
PLO 4		x			x

PART V: INTENDED ANALYSIS, RESPONSIBILITY, AND COMMUNICATION

Explanation:

- ☐ Implementation of the assessment plan should be a shared responsibility--identify who was involved in developing the assessment plan
- ☐ Identify who will be involved in the analysis and evaluation of the subsequent evidence
- ☐ Identify who will be responsible for communicating results
- ☐ Identify who will be responsible for creating an action plan

The AY 2019-2020 departmental assessment committee developed this assessment plan. The data generated by the direct assessment criteria, delineated above, will be analyzed and evaluated on a rolling basis by members of the assessment committee. Members of the assessment committee and the department chair will communicate these results either at an annual retreat held before the start of the academic year and/or monthly updates at department meetings. The action plan will be completed as a component of the AY2024-2025 program review by the following departmental committees: Assessment, Curriculum, and Student Affairs

Glossary of Terms

Assessment Method: The assessment instrument(s) used to assess student learning.

- **Direct:** Linked to actual student work – i.e. written assignments, oral presentations, projects, etc.
- **Indirect:** Not actual student work – i.e. surveys, focus groups, employer feedback, etc.

Department/Program Goals and Objectives: Usually a combination of learning outcomes and strategic outcomes, that may or may not be based on student-centered work.

Essential Learning Outcome (ELO): The University-level Learning Outcomes - should be very broad. These are the specific characteristics a student should have upon graduation from the institution. Assessment from the Course, Program, Department and Divisional levels will link upward to show achievement.

Learning Outcome (LO): Measurable statements that indicate the specific characteristics students should exhibit in order to demonstrate achievement. The levels of Learning Outcomes are LA&S, Divisional, Department, Program and Course.

Mission Statement: A concise statement that explains the purpose of the division, department, or program based on the primary functions.

Source of Assessment: The course and student work that will provide data.

Vision Statement: A very concise (usually one sentence or partial sentence) statement that is “forward” thinking and describes what the Division, Department or Program strives to be.