UNIVERSITY OF SAN FRANCISCO | College of Arts and Sciences

Chemistry Majors and Minors Aggregate Report

Academic Year 2023-2024
Assessment Report (regular template)

I. Logistics

1. **Please indicate the name and email of the program contact person to whom feedback should be sent (usually Chair, Program Director, or Faculty Assessment Coordinator).**

   William Karney (karney@usfca.edu)

2. **Please indicate if you are submitting report for (a) a Major, (b) a Minor, (c) an aggregate report for a Major & Minor (in which case, each should be explained in a separate paragraph as in this template), (d) a Graduate or (e) a Certificate Program.**

   This is an aggregate report for Major and Minor.

3. **Please note that a Curricular Map should accompany every assessment report. Has there been any revisions to the Curricular Map since October 2022?**

   This is the second year of our 3-year assessment, and the schedule of our plan has changed. The department used AY 23-24 (Year 2) as a year of reflection, so we did not assess any PLOs this year. As a result, and based on what we are due to assess, we will assess PLO 1 in Year 3 (AY 24-25). We may also assess PLO 3 in Year 3.

II. Mission Statement & Program Learning Outcomes

1. **Were any changes made to the program mission statement since the last assessment cycle in December 2022? Kindly state "Yes" or "No." Please provide the current mission statement below. If you are submitting an aggregate report, please provide the current mission statements of both the major and the minor program.**

   No

   Mission Statement (Major/Graduate/Certificate):
   To deliver a broad-based and challenging chemistry experience that will train students for graduate school in science or as professionals in a variety of health, government or private industry positions. The program will foster a culture that values our students, faculty and staff; strives to help students become self-learners; creates opportunities for students to discover the excitement and creativity of research, and promotes an understanding that social consciousness and ethical behavior are essential features of a principled chemistry community.

   Mission Statement (Minor):
   To deliver a broad-based and challenging chemistry experience that will train students for graduate school in science or as professionals in a variety of health, government or private industry positions. The program will foster a culture that values our students, faculty and staff; strives to help students become self-learners; creates opportunities for students to discover the excitement and creativity of research, and promotes an understanding that social consciousness and ethical behavior are essential features of a principled chemistry community.

2. **Were any changes made to the program learning outcomes (PLOs) since the last assessment cycle in December 2022? Kindly state "Yes" or "No." Please provide the current PLOs below. If you are submitting an aggregate report, please provide the current PLOs for both the major and the minor programs.**

   No.

   PLOs (Major/Graduate/Certificate):
   LO #1: Students will demonstrate their mastery of the four (or five for BS biochemistry emphasis) principal disciplines: analytical, organic, physical, (biochemistry) and inorganic chemistry.
   LO#2: Students will recognize and understand the concepts and skills learned in prerequisite courses at or before the start of the new course or laboratory.
   LO#3: Students or student teams will demonstrate mastery in problem solving by performing a broad variety of analytical, computational and synthetic procedures using proper safety protocols, and will critically evaluate the results.
   LO#4: Students will demonstrate effective scientific communications skills in both written and oral form. Students will be able to write reports and present results while following professional policies regarding intellectual property, plagiarism, and group work.

PLOs (Minor):
LO #1: Students will demonstrate intermediate level of mastery of the four (or five for BS biochemistry emphasis) principal disciplines: analytical, organic, physical, (biochemistry) and inorganic chemistry.
LO#2: Students will recognize and understand the concepts and skills learned in prerequisite courses at or before the start of the new course or laboratory.
LO#3: Students or student teams will demonstrate intermediate levels of mastery in problem solving by performing a broad variety of analytical, computational and synthetic procedures using proper safety protocols, and will critically evaluate the results.
LO#4: Students will demonstrate scientific communications skills in both written and oral form. Students will be able to write reports and present results while following professional policies regarding intellectual property, plagiarism, and group work.

3. **State the particular Program Learning Outcome(s) you assessed for the academic year 2023-2024.**
   The department decided that AY23-24 would be a year of reflection, focusing on making sure that our course descriptions accurately reflect the content in the classes.

   PLO(s) being assessed (Major/Graduate/Certificate):
   We opted to evaluate and revise the course descriptions and prerequisites in the course catalog.

   PLO(s) being assessed (Minor):
   We opted to evaluate and revise the course descriptions and prerequisites in the course catalog.

III. Methodology

Methodology used (Major/Graduate/Certificate):
Faculty were asked to revisit and possibly revise the course descriptions for all department courses, as well as the prerequisites listed for each course. Each course was assigned to faculty members with experience teaching the course. Prerequisites were generally discussed by the department as a whole.

Methodology used (Minor):
The course descriptions are independent of major/minor considerations, so the methodology is the same for both major and minor. To minimize the unnecessary redundancy that would arise from copying and pasting the same information for the minor in this document, we have decided to leave those sections blank from this point on. The data presented under the “major” section should be treated as an aggregate of both the major and minor.

IV. Results & Major Findings

Results (Major/Graduate/Certificate and Minor):
The current course description and (if applicable) the revised course description for each course are listed below.

CHEM 111: General Chemistry I

Course Description

The first in a two-semester course sequence, this course introduces the fundamental principles of modern chemistry, including atomic and molecular structure, periodicity of the elements, stoichiometry, properties of gases and of solutions. All students desiring CHEM 111 must review tutorials and take the USF Chemistry Diagnostic Test on the USF Placement Test page (https://myusf.usfca.edu/webtrack/placement-tests).

CHEM 112: Laboratory

Course Description

A laboratory course designed to accompany General Chemistry I. Emphasis is placed on experiments that illustrate the fundamental principles and laws of chemical behavior and engage students in cooperative data acquisition and analysis. Topics include accuracy/precision, qualitative analysis, titrations, atomic spectroscopy, properties of gases and of solutions. Assessment based on laboratory technique, pre-lab assignments, written laboratory reports, accuracy of analyses, and a final exam. One four-hour lab per week. Offered every semester and Summer.

REVISED Course Description

A laboratory course designed to accompany General Chemistry I lecture. Emphasis is placed on experiments that illustrate the fundamental principles in Chemistry and engage students in cooperative data acquisition and analysis using the Science Writing Heuristic (SWH) instructional technique. Topics include accuracy/precision, qualitative and quantitative analyses, atomic spectroscopy, properties of gases and of solutions. Experiments are designed keeping "The 12 Green Chemistry Principles" in mind to make the labs safer for human health and environment. Assessment based on laboratory technique, pre-lab and post-lab assignments, accuracy of analyses. One four-hour lab per week. Offered every semester and Summer.

CHEM 113: General Chemistry II

Course Description

The second in a two-semester course sequence, this course covers the principles of modern chemistry with an emphasis on quantitative problem solving. Topics include energy, equilibrium, kinetics, acids, bases and buffers, thermochemistry, redox chemistry and coordination compounds. Offered every Spring and Summer.

CHEM 114: Laboratory

Course Description

A laboratory course designed to accompany General Chemistry II. Topics include techniques of data analysis, thermochemistry, chemical kinetics, equilibrium, acids, bases and buffers, electrochemistry and coordination chemistry. Wherever appropriate, computer skills are introduced and applied to data collection and analysis. Assessment based on laboratory technique, pre-lab assignments, written laboratory reports, accuracy of analyses, and a laboratory practical exam. One four-hour lab per week.

REVISED Course Description

A laboratory course designed to accompany General Chemistry II. Topics include techniques of data analysis, thermochemistry, chemical kinetics, equilibrium, acids, bases and buffers, electrochemistry and coordination chemistry. Wherever appropriate, computer skills are introduced and applied to data collection and analysis. Assessment based on laboratory technique, pre-lab assignments, written laboratory reports, accuracy of analyses, and a laboratory practical exam. One four-hour lab per week. Concurrent enrollment in CHEM 113 is required, or previous completion of CHEM 113 with a minimum grade of C. Offered every spring.

CHEM 150: General Chemistry I for Engineers and Scientists

Course Description

General Chemistry 1 for Engineers and Scientists introduces fundamental principles of modern chemistry with an emphasis on materials and environmental applications and is designed for non-chemistry majors. Topics include atomic and molecular structure, periodicity, chemical bonding and reactions, crystalline solids, bulk and nanomaterials, chemical equilibrium, thermodynamics, electrochemistry, and nuclear chemistry. Students also engage in designing and executing laboratory experiments that reinforce modern chemistry concepts introduced in lecture.

REVISED Course Description

General Chemistry 1 for Engineers and Scientists introduces fundamental principles of modern chemistry with an emphasis on environmental and engineering applications and is designed for non-chemistry majors. Topics include atomic and molecular structure, periodicity, chemical bonding and reactions, gases, materials, thermodynamics, chemical kinetics, chemical equilibrium, and electrochemistry. Students also engage in designing and executing laboratory experiments that reinforce modern chemistry concepts introduced in lecture.

CHEM 150L: Laboratory

Course Description

General Chemistry 1 for Engineers and Scientists introduces fundamental principles of modern chemistry with an emphasis on materials and environmental applications and is designed for non-chemistry majors. Topics include atomic and molecular structure, periodicity, chemical bonding and reactions, crystalline solids, bulk and nanomaterials, chemical equilibrium, thermodynamics, electrochemistry, and nuclear chemistry. Students also engage in designing and executing laboratory experiments that reinforce modern chemistry concepts introduced in lecture.

REVISED Course Description

In the labs for CHEM 150: General Chemistry 1 for Engineers and Scientists, students engage in designing and executing laboratory experiments that reinforce modern chemistry concepts introduced in lecture. Labs include using standard curves and titrations to determine the concentration in unknown samples, simulating air bags, creating and testing polymers, synthesizing biofuels and evaluating their energy content compared to conventional fuels, determining reaction rates and building homemade batteries.

CHEM 151: General Chemistry II for Engineers and Scientists

Course Description

Building on the fundamental concepts surveyed in General Chemistry I for Engineers and Scientists, this course focuses on the chemistry of natural and engineered systems (including air, water, soil/sediment environments) in the context of complex, multi-component and multi-

phase environmental systems. Designed for environmental engineering and environmental science students, the class emphasizes a holistic approach to science and engineering, using case studies, field trips and laboratory experiments to reinforce fundamental principles and demonstrate applications in a broader environmental context.

CHEM 151L: Laboratory

Course Description

none

REVISED Course Description

In the labs for CHEM 151: General Chemistry II for Engineers and Scientists, students engage in designing and executing laboratory experiments that reinforce modern chemistry concepts introduced in lecture. Labs include investigating acid-base chemistry in the environment, evaluating air-water partitioning of chemical compounds, measuring volatile organics, analyzing the link between thermodynamics and equilibrium, applying electrolysis, comparing factors influencing pollutant removal in water, and visiting the USF swimming pool and assessing pool maintenance and disinfection processes.

CHEM 191: Workshop in General Chemistry 111 (PLTL)

Course Description

Workshops are based on Peer-Led Team Learning (PLTL) which is a model of collaborative learning that supplements large lecture courses (www.pltl.org). In PLTL, 6-8 students work together to solve challenging problems in an active study group facilitated by a Peer Leader. The course instructor designs the problems based on the topics covered in Chem 111 and supervises/trains the Peer Leaders. Optional for Chem 111 students. Concurrent registration in Chem 111 is required. One session per week. Pass/Fail.

CHEM 193: Workshop in General Chemistry 113 (PLTL)

Course Description

Workshops are based on Peer-Led Team Learning (PLTL) which is a model of collaborative learning that supplements large lecture courses (www.pltl.org). In PLTL, 6-8 students work together to solve challenging problems in an active study group facilitated by a Peer Leader. The course instructor designs the problems based on the topics covered in Chem 113 and supervises/trains the Peer Leaders. Optional for Chem 113 students. Concurrent registration in Chem 113 is required. One session per week. Pass/Fail.

CHEM 230: Organic Chemistry I

Course Description

First semester of a two-semester course. This course introduces students to the fundamental concepts necessary for understanding organic molecules. These include nomenclature, conformational analysis, stereochemistry, radical and nucleophilic reactions, and spectroscopy. Offered every Fall and Summer.

CHEM 231: Organic Chemistry II

Course Description

Second semester of a two-semester course. Surveys the chemistry of functionalized organic compounds emphasizing mechanisms and multi-step syntheses. Offered every Spring and Summer.

CHEM 232: Organic Chemistry Lab I

Course Description

Experimental course that highlights the concepts learned in lecture. Students will learn and employ techniques for the preparation, isolation, purification and characterization of organic molecules. Offered every Fall.

REVISED Course Description

This course provides experience with techniques for the synthesis, isolation, purification, and characterization of organic compounds. Techniques include reaction setup, thin-layer chromatography, extraction, filtration, distillation, and IR and NMR spectroscopy. The class also emphasizes attention to safety and management of chemical waste. Students keep a detailed lab notebook and complete pre-and post-lab questions on theory, practical techniques, and data analysis. Offered every Fall.

CHEM 234: Organic Chemistry Lab II

Course Description

A continuation of the first semester lab course. Students will gain more experience in multistep synthesis and analysis of products. Offered every Spring.

REVISED Course Description

This course provides additional experience with the common techniques used to synthesize, purify, characterize, and analyze organic compounds. The theory behind each experiment reinforces concepts from CHEM 231/236. Students will develop skills in laboratory manipulations, instrument utilization, and data analysis in a laboratory setting. This class emphasizes best practices for laboratory work, including attention to safety, independent preparation, effective conversion of paragraph instructions to task list to experimental maneuvers, attention to details, argument from data to reasoned conclusions, and the management of chemical waste. Students will demonstrate command of these skills by answering background questions based on reading assignments, purposefully and fully participating in laboratory exercises, carefully maintaining a detailed laboratory notebook, thoroughly analyzing and interpreting experimental data, and writing conclusions. Offered every Spring.

CHEM 236: Fundamentals of Organic Chemistry

Course Description

A survey of the fundamentals of organic chemistry. May be taken prior to, or along with, CHEM 232. This course may not be substituted for CHEM 230.

CHEM 260: Analytical Chemistry

Course Description

An introduction to the principles and practices of analytical chemistry with an emphasis on quantitative methods. Classical methods such as titrimetric and volumetric analyses as well as basic instrumental methods involving spectroscopy, electrochemistry, and chromatography will be performed. There will be an emphasis on developing skills in professional report writing in the ACS style and project type work.

REVISED Course Description

An introduction to the principles and practices of analytical chemistry with an emphasis on quantitative methods. Topics include titrimetric and volumetric analyses as well as basic instrumental methods involving spectroscopy, electrochemistry, and chromatography. Students learn how to use basic statistical tools to report scientific data with precision and

accuracy. Special emphasis on developing scientific communication skills via student group presentations, literature review and professional report writing using the ACS style. Assessment based on in-class quizzes, homework, midterm exams, student presentations and a final exam. Offered every Spring.

CHEM 260L: Laboratory

Course Description

A laboratory course designed to accompany CHEM 260.

REVISED Course Description

A laboratory course designed to accompany CHEM 260 lecture topics so students have hands-on experience with different analytical techniques. Students write a scientific report using ACS style. One four-hour lab every week. Offered every Spring.

CHEM 290: Workshop in Organic Chemistry 230 (PLTL)

Course Description

Workshops are based on Peer-Led Team Learning (PLTL) which is a model of collaborative learning that supplements large lecture courses (www.pltl.org). In PLTL, 8-10 students work together to solve challenging problems in an active study group facilitated by an undergraduate Peer Leader. The course instructor designs the problems based on Chem 230 topics and trains the USF Student Peer Leaders. Optional for Chem 230 students. Concurrent registration in Chem 230 is required. One session per week. Pass/Fail.

CHEM 291: Workshop in Organic Chemistry 231 (PLTL)

Course Description

Workshops are based on Peer-Led Team Learning (PLTL) which is a model of collaborative learning that supplements large lecture courses (www.pltl.org). In PLTL, 8-10 students work together to solve challenging problems in an active study group facilitated by an undergraduate Peer Leader. The course instructor designs the problems based on Organic Chem 231 topics and trains the USF Student Peer Leaders. Optional, but concurrent registration in Chem 231 is required. One session per week. Pass/Fail.

CHEM 310: Kitchen Science

Course Description

Kitchen Science fulfills the chemistry major and minor elective option/requirement and assumes a solid knowledge of General Chemistry I and II and Organic Chemistry I and II. This course focuses on the physical and chemical properties of actual food and drink, including pickles, tea and ice cream, and the transformative nature of cooking. We will probe and review scientific concepts, molecular structures, processes and reactions learned in General and Organic Chemistry, and look at new chemistry specific to foods.

CHEM 311: Environmental Chemistry

Course Description

This course provides in-depth coverage of major topics in the chemistry of the environment, including tropospheric air pollution, stratospheric ozone depletion, aquatic chemistry, water pollution and water treatment, soil chemistry, and toxic organic compounds. Offered intermittently.

REVISED Course Description

This course provides in-depth coverage of major topics in the chemistry of the environment, including climate change, tropospheric air pollution, aquatic chemistry, water pollution and water treatment, soil chemistry, and toxic organic compounds. Offered intermittently.

CHEM 320: Inorganic Chemistry I

Course Description

Students learn about bonding theories, group theory, acid/base and redox properties, solid state materials and bonding models for coordination complexes. Laboratory emphasizes synthetic techniques for inorganic chemistry and spectroscopic, physical and computational methods of characterization.

CHEM 320L: Laboratory

Course Description

A laboratory course designed to accompany CHEM 320.

CHEM 332: Medicinal Chemistry

Course Description

An overview of the principles underlying the discovery, design, and development of modern medicines. Topics include: target identification; pharmacodynamics & pharmacokinetics; lead identification & optimization; and considerations for application to the clinic. Fulfills the elective option for the Major in Chemistry and the elective requirement for the Minor in Chemistry.

REVISED Course Description

This course provides an overview of the principles underlying the discovery, design, and development of modern medicines from an organic chemistry perspective. Topics include: target identification, pharmacodynamics & pharmacokinetics, lead identification & optimization, and considerations for application to the clinic. In addition, students will learn key historical and regulatory moments within drug discovery, along with public policy issues and social attitudes relevant to certain controlled substances. Offered every other Spring.

CHEM 333: Advanced Organic Chemistry Lab

Course Description

This course builds on the principles and techniques learned in the year-long organic chemistry laboratory for the synthesis, purification, and characterization of organic compounds. In addition to providing further experience with basic lab techniques (e.g., thin-layer chromatography, extraction, distillation), this course introduces advanced techniques including inert-atmosphere manipulations (e.g., syringe, vacuum manifold,), low temperature set-ups, flash column chromatography and computational modeling. The course also provides a forum to learn sophisticated principles of spectral interpretation (2D NMR) and how to write an American Chemical Society manuscript.

CHEM 334: Advanced Organic Chemistry

Course Description

This class builds on Organic Chemistry II lecture. Its focus is carbon-carbon bond formation, organometallic chemistry, pericyclic reactions, and the fundamental concepts associated with these topics, including stereoselective and stereospecific reactions, transition metal reaction mechanisms, and orbital theory. There is also a significant emphasis on the current organic chemistry literature and student projects and presentations.

CHEM 340: Physical Chemistry I

Course Description

First semester of a two-semester sequence. The main topics are: thermodynamics, electrochemistry, and kinetics. Offered every Fall.

CHEM 341: Physical Chemistry II

Course Description

Second semester of a two-semester sequence. The main topics are: quantum mechanics, spectroscopy, and statistical thermodynamics. Offered every Spring.

REVISED Course Description

Second semester of a two-semester sequence. The main topics are: quantum mechanics, spectroscopy, and statistical thermodynamics. Offered every other Spring.

CHEM 350: Biochemistry I

Course Description

First semester of a two-semester course. Surveys the physical and chemical properties of biomolecules and how these properties lead to observed biological functions.

CHEM 351: Biochemistry II

Course Description

Second semester of a two-semester course. Surveys the major metabolic pathways and the control of metabolism at the nucleic acid and protein levels. Offered every Spring. Prerequisite: CHEM 350 with minimum grade of C.

CHEM 352: Experimental Biochemistry

Course Description

Techniques commonly used in biochemical research, with emphasis upon protein and enzyme isolation and characterization. Instructor approval required. Priority given to Chemistry Majors with a Concentration in Biochemistry. Offered every other year.

REVISED Course Description

Techniques commonly used in biochemical research, such as protein isolation, characterization, and assays. Priority given to Chemistry Majors with a Concentration in Biochemistry. Offered every spring.

CHEM 356: Fundamentals of Biochemistry

Course Description

A survey of biochemical concepts emphasizing the nature of cell components, their interaction in metabolism and the regulation of metabolism. Offered every Fall.

REVISED Course Description

A survey of the structure and function of the four classes of biological macromolecules. Bioenergetic principles and certain metabolic pathways are introduced. Offered every semester.

CHEM 386: Special Topics in Chemistry

Course Description

Topics not covered by other Chemistry curriculum offerings.

REVISED Course Description
Topics not covered by other Chemistry curriculum offerings. Offered intermittently.

CHEM 397: Undergraduate Research Methods & Practice

Course Description
The primary purpose of the course will be a hands-on research experience as part of a faculty led research or scholarly project. Students must be accepted into a research group before adding the course, with priority given to majors who have completed Chem 231/260. In fall, all undergraduate researchers will meet periodically to evaluate the chemical literature, review safety and give an informal presentation. In addition, the faculty will assist students in writing a required research progress report from work completed in fall or the preceding summer. In spring, the course instructor will assist students in preparing a professional oral or graphical presentation of research for a campus, local and/or national meeting. A full written report is required for students in their final semester who are completing the optional ACS-certified degree. Offered every semester for 1 unit and can be repeated for a maximum of 4 units.

REVISED Course Description
The primary purpose of the course is a hands-on research experience as part of a faculty led research or scholarly project. Students must be accepted into a research group before adding the course. In the fall semester, students write a formal research progress report from work completed concurrently or previously. In the spring semester, students prepare a professional oral or poster presentation of research for a campus, local and/or national meeting. Offered every semester for 1 unit and can be repeated for a maximum of 4 units.

CHEM 398: Directed Study

Course Description
Study of selected topic, under the guidance of a member of the faculty. The consent of the instructor is required.

CHEM 410: Integrated Laboratory

Course Description
In this laboratory course students perform experiments designed to deepen instrumentation skills and build upon the conceptual material being delivered in the second semester P-Chem lecture course (CHEM 341). The introduction of quantum mechanics allows a deeper discussion of spectroscopy and reaction kinetics. The conceptual basis of NMR is elaborated upon and NMR spectroscopy forms a major element of the course.

V. Closing the Loop

Closing the Loop (Major/Graduate/Certificate and Minor):
The year of reflection allowed the department to generate revised course descriptions for numerous classes—descriptions that more accurately depict the course content. The descriptions will help students with planning by giving them a better sense of course content. Moving forward, these will be used as a component in assessing student performance in each course, and if necessary, in revising assessment methods in those courses.

VI. Suggestions from AY 2022-2023 Feedback

Suggestions (Major/Graduate/Certificate and Minor):
Following last year's assessment, there were no suggestions for the department.

Additional Materials

BS CHEM Curriculum Map: 3-Year Assessment Plan (2022-2025)

Chemistry Program Learning Outcomes **A=Assessed**	**113**	**114L**	**230**	**232L**	**231**	**234L**	**260**	**320**	**332**	**333**	**334**	**340/ 341**	**350/ 351**	**352**	**397**	**410**
Year 1: AY 22-23 **Year 2: AY 23-24** **Year 3: AY 24-25**	**General II**	**General Lab II**	**Organic I**	**Organic Lab I**	**Organic II**	**Organic Lab II**	**Analytical + Lab**	**Inorganic**	**Medicinal**	**Advanced Organic Lab**	**Advanced Synth**	**Physical I/II**	**Biochemistry I/II**	**Biochemistry Lab**	**Research**	**Integrated Lab**
LO #1: Students will demonstrate his/her mastery of the five principal disciplines: analytical, organic, physical, inorganic, and biochemistry	**A**				**A**		**A**	**A**				**A**				
year of assessment (1-3 means you may be collecting data every year anyway….ACS exam or common final exam question).	1-3		3		1-3?		1-3	1-3				1-3				
LO#2: Students will recognize and understand the concepts and skills learned in prerequisite courses at or before the start of the new course or laboratory	**A**		**A**			**A**		**A**				**A**	**A**			
year of assessment	1		1					1				1	1			
LO#3: Students or student teams will demonstrate excellent problem-solving skills in performing a broad variety of analytical, computational and synthetic procedures using proper safety protocols, and will critically evaluate the results (i.e. Lab Practical)		**A**				**A**	**A**	**A**		**A**				**A**		**A**
year of assessment		3				3	3	3		3				3		3
LO#4: Students will demonstrate effective scientific communications skills in both written and oral form. Students will be able to write reports and present results while following professional policies regarding intellectual property, plagiarism, and group work																
year of assessment (written or oral)																

NOTE: Year 2 (AY 23-24) was a year of reflection, so no PLOs were assessed. PLO 4 will be assessed in AY 25-26 during the next cycle.