Computer Science [CSCI]

Cycles included in this report:
Jun 1, 2022 to May 31, 2023

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Program Name: Computer Science [CSCI]

Reporting Cycle: Jun 1, 2022 to May 31, 2023

1 Is this program offered via Distance Learning?

100% Traditional or less than 50% Distance/Traditional

2 Is this program offered at an off-site location?

No

2.1 If yes to previous, provide addresses for each location where 50% or more of program credits may be earned.

3 Example of Program Improvement

2016-2017:
Data from last year indicates some improvements were observed. Analysis has suggested minor improvements to teaching methods were needed in certain classes (CSCI 491, CSCI 413, and CSCI 416 in particular) but insufficient data has been collected so far.

2017-2018:
Continued improvements have been observed in the majority of our benchmarks, with all assessment metrics making the benchmark.

2018-2019:
Updated the Degree plans for all three concentration to meet the new ABET requirements.
Updated two Computer Labs with new PCs and Software packages.

2019-2020:
Worked with industry partners on a plan to change 3 intro classes CSCI 180, CSCI 281, and CSCI 282 to current programming needs. Industry advisory board suggested more Java and the Python language. Began course implementation.

Also began the implementation of CSCI 310, a new ethics in computing course.

2020-2021:
Solidified the course work and ran the following classes for students:

- CSCI 180 - Switched from C Part 1 to Python
- CSCI 281 - Switched from C Part 2 to Java Part 1
- CSCI 282 - Switched from Java to Java Part 2
- CSCI 310 - Computing Ethics

2021-2022:
Students begin to return to on-campus classes Fall 2021. Development begins on new Datamining, Robotics, Machine Learning, and Cyber Defense courses. Students are still responding well to the new changes.
Additional changes in curriculum to take effect in the 2022-2023 catalog year:

- MATH 185 set as a pre-requisite for CSCI 308
- Statistics set as a pre-requisite for CSCI 429
- Datamining, Robotics, and Machine Learning courses added to course list

2022-2023:
Students are still responding well to the changes and overall coding readiness for higher level courses is becoming evident. The first rounds of the new Robotics, Machine Learning, and Cyber Defense courses are offered to students.
Additional changes in curriculum to take effect in the 2023-2024 catalog year:

- Separating CSCI 491 (senior seminar) into CSCI 492 (1hr fall class) and CSCI 493 (3hr spring class).
- Requiring CSCI 310 (ethics) and COMM 201 (fundamentals of public speaking) instead of the current Philosophy class.
- CSCI 321 is removed from the curriculum. The class concept will now be replaced by BADM 374 and taught by business department faculty.
- CSCI 180 is modified to allow MATH 113/MATH 170/MATH 175/MATH177 as pre/co-requisites. Decision made to allow students to begin work on computer science courses earlier even if they are not yet ready for MATH 190
- CSCI minor removes the 3 hr class restricted elective choices, and adds 2 3hr 300/400 level CSCI/CPEN/ELEN free choice elective courses. Total credits for minor changed from 15hrs to 18hrs.
- Cyber Security minor is in development and will be offered. 21hrs - 7 classes.

4 Program Highlights from the Reporting Year

2016-2017:

The faculty of the B.S. in Computer Science program reviewed CS courses in the McNeese Catalog and eliminated unused courses and reviewed/updated course descriptions, and prerequisites for all courses as needed. The SLO assessments (ABET 3a-k) for the designated courses (CSCI 308, 410, 413, 416, and 491) were done.

2017-2018:
The faculty roster has gone through change due to retirements and attrition. In spite of this, benchmarks have been met and exceeded. Continued improvement will include re-evaluation of courses and introduction of new courses.

2018-2019:
In Fall 2018 the ABET evaluators visited McNeese and reviewed the CS program. There were no academic concerns or weakness. However, there were some weaknesses about Institutional support and outdated Lab facilities. Both issues were addressed in Spring 2019 and the final result were complete success and the CS program was accredited for a full six-year term. This was a great learning process for faculty and staff.

2019-2020:
New ABET requirements and Industry Advisory Board course modifications begin. Additions of Python, 2 semesters of Java, Operating systems classes, and a new ethics in the sciences courses were under development and being offered.

2020-2021:
Year of COVID 19 and Hurricane Laura. Classes given online for the majority of the year. New course modifications from 2019 - 2020 are offered for students. Students are responding well to the new changes.

2021-2022:
Students begin to return to on-campus classes Fall 2021. Development begins on new Datamining, Robotics, Machine Learning, and Cyber Defense courses. Students are still responding well to the new changes. The beginnings of a new online APR software development project begins with hiring students, creating web page templates, and initial database, webpage, and pdf report development.

2022-2023:
Students are still responding well to the changes and overall coding readiness for higher level courses is becoming evident. The first rounds of the new Robotics, Machine Learning, and Cyber Defense courses are offered to students. Additional changes in curriculum to take effect in the 2023-2024 catalog year: Total credits for CS minor changed from 15hrs to 18hrs. Other modifications made to give students more options, computing ethics, and a better introduction to their senior project class. (see Program changes section). More changes possible after McNeese Future Search conference results.
Fall 2022 Dr. Lavergne becomes new computer science coordinator. The new online APR software development project adds 3 more students for back end web development and a statistics dashboard. Roadmaps are updated for the 3 concentrations and minor for posters.

2022-2023:

- LaSpace Senior Design Undergraduate Research Team secured 2nd place in poster competition in LSU Discover Day.
- Video Game and Data Analysis Research group submitted survey papers for review in preparation for undergraduate research conference next semester.
- Received TASC (Development of VR Lab) Grant. $48k
- Submitted BOR grant proposal for Cyber Security Lab enhancement, equipment, and education. Toward minor in Cyber Security. $170k
- 300+ students from high schools attended Computer Science Student projects during E-Week.
- Industry experts came for E-Week to deliver talks on contemporary CS topics to current CS students.
- Certifications
    - 1 student - Cyber Security
    - 2 students - MS 70-742 Windows Server 2016
    - 14 students - 1st level of Kuka Robot Language
- Received 4k for LaSpace Senior Undergraduate Research Grant.
- Submitted Proposal 23-24 La Space Senior Undergraduate Research Grant.
- Received $4k for McNeese Computer Science Tutoring Center.
- Received Shearman Grant for OTTER. Autonomous Transport Device. $6k.

5 Program Mission

Provide students with a solid grounding in computer science, enable students to become effective problem solvers, foster the students' ability to effectively convey their technical knowledge and encourage students to become responsible computer science professionals. The degree will prepare students for a career in the field of computer science or for admission into a graduate program in computer science or a related field of study. Stakeholders: graduate schools, employers.

6 Institutional Mission Reference

This degree supports the University's fundamental mission to successfully educate undergraduate students to meet the needs of regional employers. The program provides graduates with the critical thinking and problem solving skills required to support regional economic development. It provides opportunities for student internships in local industry and prepares students to become effective employees.

7 Assessment and Benchmark CSCI 308 Coursework

Assessment: The rubric evaluation of CSCI 308 - Advanced Data Structures and Algorithms assesses the following Performance Criteria about ABET SLO A.

Students should have an ability to apply knowledge of computing and mathematics appropriate to the discipline (ABET SLO A).

1. Apply mathematics to obtain the general formula for the sum of a sequence of terms, seen in the student's ability to perform a proof by induction.
2. Apply knowledge of computing and mathematics to develop recursive and non-recursive solutions to a broad variety of problems.
3. Apply the necessary math to derive and/or explain the best case, worst case, and average case complexities of certain important problems in Computer Science.

Benchmark: An average score of 3.25/5.00 is the desired achievement level. A benchmark of 3.25 on a 5-point scale for the rubric evaluation of "CSCI 308 - Advanced Data Structures and Algorithms" for each of the SLOs is set.

Prior to 2019-2020, the benchmark was 3.00 on a 5-point scale

Prior to 2016-2017, the benchmark was 2.00 on a 3-point scale.

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

3a

Outcome Links

3A-PC1 [Program]
Apply mathematics to obtain the general formula for the sum of a sequence of terms, seen in the student's ability to perform a proof by induction

3A-PC2 [Program]
Apply knowledge of computing and mathematics to develop recursive and non-recursive solutions to a broad variety of problems

3A-PC3 [Program]
Apply the necessary math to derive and/or explain the best case, worst case, and average case complexities of certain important problems in Computer Science

ABET CAC [External]

ABET CAC 3A

An ability to apply knowledge of computing and mathematics appropriate to the programâ€™s student outcomes and to the discipline

7.1 Data PC1: Analyze complex computing problems

PC1: Apply mathematics to obtain the general formula for the sum of a sequence of terms, seen in the student's ability to perform Analysis of Algorithms (Big Oh, counting primitive operations, and asymptotic analysis).

Academic Year	Average score on PC1
2013-2014	2.50/3.00
2014-2015	2.19/3.00
2015-2016	1.76/3.00
2016-2017	3.92/5.00
2017-2018	4.25/5.00
2018-2019	4.49/5.00
2019-2020	4.04/5.00
2020-2021	4.04/5.00
2021-2022	4.67/5.00
2022-2023	4.13/5.00

Outcome Links

3A-PC1 [Program]
Apply mathematics to obtain the general formula for the sum of a sequence of terms, seen in the student's ability to perform a proof by induction

7.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Assessment scale for 2016-2017 is changed to a 5-point scale. The benchmark was met in 2016-2017. No action is needed. The data collected will be monitored for possible benchmark change.

2017-2018:
Continuing on the 5-point scale, the benchmark was met and an improvement from the previous year was seen. No action is needed.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new BM is 3.25/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:
More examples and hands on experience with java programming and using java functionality needs to be implemented.

2020-2021:
Additional work on Graphs needed to improve score. More practice using the structures and more visual/hands on examples should help. Graphs at the end of the class could result in lack of motivation as students are getting ready for the end of the semester.

2021-2022:
The benchmark was met.

2022-2023:
The benchmark for this period has been met. A small drop in assessment values was seen due to students being used to pandemic level education from high school and early university. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. I believe more background information on mathematics, coding, and moodle usage may help bring the scores higher.

7.2 Data

PC2: Apply knowledge of computing and mathematics to develop recursive and non-recursive solutions to a broad variety of problems.

Academic Year	Average score on PC2
2013-2014	2.36/3.00
2014-2015	2.50/3.00
2015-2016	2.54/3.00
2016-2017	4.12/5.00
2017-2018	4.41/5.00
2018-2019	4.48/5.00
2019-2020	4.04/5.00
2020-2021	4.04/5.00
2021-2022	4.42/5.00
2022-2023	4.36/5.00

Outcome Links

3A-PC2 [Program]
Apply knowledge of computing and mathematics to develop recursive and non-recursive solutions to a broad variety of problems

7.2.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Assessment scale for 2016-2017 is changed to a 5-point scale. The benchmark was met in 2016-2017. No action is needed. The data collected will be monitored for possible benchmark change.

2017-2018:
The benchmark was met in 2017-2018 with an improvement seen from the previous year. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new BM is changed to 3.25/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:
More examples and hands on experience with java programming and using java functionality needs to be implemented.

2020-2021:
Additional work on Graphs needed to improve score. More practice using the structures and more visual/hands on examples should help. Graphs at the end of the class could result in lack of motivation as students are getting ready for the end of the semester.

2021-2022:
The benchmark was met.

2022-2023:
The benchmark for this period has been met. A small fluctuation in assessment values was seen, possibly due to students being used to pandemic level education from high school and early university. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. I believe more background information on mathematics, coding, and moodle usage may help bring the scores higher.

7.3 Data

PC3: Apply the necessary math to derive and/or explain the best case, worst case, and average case complexities of certain important problems in Computer Science.

Academic Year	Average score on PC3
2013-2014	2.63/3.00
2014-2015	2.55/3.00
2015-2016	2.71/3.00
2016-2017	3.96/5.00
2017-2018	4.63/5.00
2018-2019	4.86/5.00
2019-2020	4.04/5.00
2020-2021	4.04/5.00
2021-2022	4.28/5.00
2022-2023	4.52/5.00

Outcome Links

3A-PC3 [Program]
Apply the necessary math to derive and/or explain the best case, worst case, and average case complexities of certain important problems in Computer Science

7.3.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Assessment scale for 2016-2017 is changed to a 5-point scale. The benchmark was met in 2016-2017. No action is needed. The data will be monitored for possible benchmark change.

2017-2018:
The benchmark was met in 2017-2018 and an improvement over the previous year shown. No action is needed. The data will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new BM is changed to 3.25/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:
More examples and hands on experience with java programming and using java functionality needs to be implemented.

2020-2021:
Additional work on Graphs needed to improve score. More practice using the structures and more visual/hands on examples should help. Graphs at the end of the class could result in lack of motivation as students are getting ready for the end of the semester.

2021-2022:
The benchmark was met.

2022-2023:
The benchmark for this period has been met. A small fluctuation in assessment values was seen, possibly due to students being used to pandemic level education from high school and early university. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. I believe more background information on mathematics, coding, and moodle usage may help bring the scores higher.

8 Assessment and Benchmark CSCI 308 Coursework

Assessment: The rubric evaluation of CSCI 308 - Advanced Data Structures and Algorithms assesses the following Performance Criteria about ABET SLO B.

Students should have an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution (ABET SLO B).

1. Demonstrate knowledge of sorting - one of the most studied problems in Computer Science - and identify computing requirements appropriate to its solution - array versus tree solutions, and recursive versus iterative solutions.
2. Analyze various problems in Computer Science and define and specify the computing requirements for its solution using the big-Oh Notation, such as O(n), O(n log n), O(n2), O(n3), O(2n), etc.

Benchmark: An average score of 3.50/5.00 is the desired achievement level. A benchmark of 3.50 on a 5-point scale for the rubric evaluation of "CSCI 308 - Advanced Data Structures and Algorithms" for each of the SLOs is set.

Prior to 2019-2020, the benchmark was 3.00 on a 5-point scale.

Prior to 2016-2017, the benchmark was 2.00 on a 3-point scale.

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

3b

Outcome Links

3B-PC1 [Program]
Demonstrate knowledge of sorting - one of the most studied problems in Computer Science - and identify computing requirements appropriate to its solution- array versus tree solutions, and recursive versus iterative solutions

3B-PC2 [Program]
Analyze various problems in Computer Science and define and specify the computing requirements for its solution using the big-Oh Notation, such as O(n), O(n log n), O(n2), O(n3), O(2n), etc.

ABET CAC [External]

ABET CAC 3B

An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

8.1 Data

PC1:Demonstrate knowledge of sorting - one of the most studied problems in ComputerScience - and identify computing requirements appropriate to its solution - array versustree solutions, and recursive versus iterative solutions.

Academic Year	Average score on PC1
2013-2014	2.54/3.00
2014-2015	2.64/3.00
2015-2016	2.43/3.00
2016-2017	3.96/5.00
2017-2018	4.69/5.00
2018-2019	3.66/5.00
2019-2020	3.96/5.00
2020-2021	4.07/5.00
2021-2022	4.44/5.00
2022-2023	4.13/5.00

Outcome Links

3B-PC1 [Program]
Demonstrate knowledge of sorting - one of the most studied problems in Computer Science - and identify computing requirements appropriate to its solution- array versus tree solutions, and recursive versus iterative solutions

8.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Assessment scale for 2016-2017 is changed to a 5-point scale. The benchmark was met in 2016-2017. No action is needed. The data collected will be monitored for possible benchmark change.

2017-2018:
The benchmark was met in 2017-2018 with improvement from the previous year seen. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new Average BM (8.1 & 8.2) is changed to 3.50/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:
It was a larger than usual class. Class size =36. Unusual semester because of Covid 19. Repeat some experiments (1.more focus on recursive vs. non recursive algorithms, 2.more focus on weaker students at the beginning of the semester) next year as well.

2020-2021:
More examples and hands on experience with proofs and big oh needed to help students become more comfortable with writing proofs and assigning performance values to algorithms.

2021-2022:
The benchmark was met.

2022-2023:
The benchmark for this period has been met. A small drop in assessment values was seen due to students being used to pandemic level education from high school and early university. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. I believe more background information on mathematics, coding, and moodle usage may help bring the scores higher.

8.2 Data PC2:Analyze various problems in Computer Science using big-O

PC2:Analyze various problems in Computer Science and define and specify the computing requirements for its solution using big-Oh Notation, such as O(n), O(n log n), O(n2),O(n3), O(2n), etc.

Academic Year	Average score on PC2
2013-2014	2.68/3.00
2014-2015	2.73/3.00
2015-2016	2.48/3.00
2016-2017	4.46/5.00
2017-2018	4.84/5.00
2018-2019	4.38/5.00
2019-2020	4.12/5.00
2020-2021	3.78/5.00
2021-2022	4.42/5.00
2022-2023	4.13/5.00

Outcome Links

3B-PC2 [Program]
Analyze various problems in Computer Science and define and specify the computing requirements for its solution using the big-Oh Notation, such as O(n), O(n log n), O(n2), O(n3), O(2n), etc.

8.2.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Assessment scale for 2016-2017 is changed to a 5-point scale. The benchmark was met in 2016-2017. No action is needed. The data collected will be monitored for possible benchmark change.

2017-2018:
The benchmark was met in 2017-2018 with improvement from the previous year seen. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new Average BM (8.1 & 8.2) is changed to 3. 50/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:
It was a larger than usual class. Class size =36. Unusual semester because of Covid 19. Repeat some experiments (1.more focus on recursive vs. non recursive algorithms, 2.more focus on weaker students at the beginning of the semester) next year as well.

2020-2021:
More examples and hands on experience with proofs and big oh needed to help students become more comfortable with writing proofs and assigning performance values to algorithms.

2021-2022:
The benchmark was met.

2022-2023:
The benchmark for this period has been met. A small drop in assessment values was seen due to students being used to pandemic level education from high school and early university. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. I believe more background information on mathematics, coding, and moodle usage may help bring the scores higher.

9 Assessment and Benchmark CSCI 310, 386/486 and 413 Coursework

Assessment: The rubric evaluation of CSCI 386 - Operating System Administration I and CSCI 413 - Software Engineering II assesses the following Performance Criteria about ABET SLO E.

Prior to 2020-2021, the assessment was a rubric evaluation of CSCI 410 - Software Engineering I and CSCI 413 - Software Engineering II.

Students should have an understanding of professional, ethical, legal, security and social issues and responsibilities (ABET SLO E).

1. Identify ethical codes or standards commonly accepted in the computer science profession.
2. Identify specific social/ethical/legal issues relevant to the computing profession and evaluate appropriate and inappropriate responses to hypothetical instances of those issues.

Benchmark for PC1: An average score of 3.25/5.00 is the desired achievement level. A benchmark of 3.25 on a 5-point scale for the rubric evaluation of CSCI 386 - Operating System Administration I and CSCI 413 - Software Engineering II.

Prior to 2019-2020, the benchmark was 3.00 on a 5-point scale.

Benchmark for PC2: An average score of 3.50/5.00 is the desired achievement level. A benchmark of 3.50 on a 5-point scale for the rubric evaluation of CSCI 386 - Operating System Administration I and CSCI 413 - Software Engineering II.

Prior to 2017-2018, the benchmark was 3 on a 5-point scale.
Prior to 2016-2017, the benchmark was 2 on a 3-point scale.

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

3e

Outcome Links

3E-PC1 [Program]
Identify ethical codes or standards commonly accepted in the computer science profession.

3E-PC2 [Program]
Identify specific social/ethical/legal issues relevant to the computing profession and evaluate appropriate and inappropriate responses to hypothetical instances of those issues.

ABET CAC [External]

ABET CAC 3E

An understanding of professional, ethical, legal, security and social issues and responsibilities

9.1 Data Identify ethical codes or standards - 310/410/413/386

PC1: Identify ethical codes or standards commonly accepted in the computer science profession.

CSCI 413 (includes data from CSCI 410):

Academic Year	Average score on PC1
2013-2014	2.75/3.00
2014-2015	2.38/3.00
2015-2016	2.88/3.00
2016-2017	—
2017-2018	3.73/5.00
2018-2019	4.3/5.00
2019-2020	3.43/5.00
2020-2021	2.72/5.00
2021-2022	4.71/5.00
2022-2023	4.37/5.00

CSCI 486 (effective Spring 2021):

Academic Year	Average score on PC1
2020-2021	4.6/5.00
2021-2022	4.19/5.00
2022-2023	4.19/5.00

CSCI 310 (effective Spring 23):

Academic Year	Average score on PC1
2022-2023	4.67/5.00

Outcome Links

3E-PC1 [Program]
Identify ethical codes or standards commonly accepted in the computer science profession.

9.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
For 2016-2017 the rubric has changed and data was not collected. Using the new rubric, data for PC1 will be collected in the 2017-2018 cycle.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new Average BM for 9.1 is changed to 3.25/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:
Performance as expected. Impacted by Covid 19.

2020-2021:
Most students only identified one code correctly. Some student identified none. Should arrange the lectures and talk about Code of Ethics at the beginning of this course and give more practice.

2021-2022:
The benchmark was meant. The department wants another year of data before re-evaluating the benchmark, due to the after effects of the hurricanes and pandemic.

2022-2023:

- CSCI 310: We concentrated on discussing ethical issues that were not clear cut. After each student presented their topic, they were asked to lead discussion using "OPEN ENDED" questions. This was a difficult concept for them to understand. they always had "yes/no" questions. Multiple times I had to workwith them to rephrase the question to be open ended. I think this might be a product of all the testing done in primary/seconday schools the they have done, yes/no, right wrong, what's to discuss. It seems that some students have forgotten how to think or even how to question themselves.
- CSCI 413: Student preformed as expected. More work restricting topic types etc needs to be implemented.
- CSCI 486: Overall, students did well on the final exam. For continuous improvement, students should apply more practice to lab simulations and lab questions. Students are allowed the opportunity to do this, but many do not take advantage of it. To further encourage this, students could be given bi-weekly discussion questions to stimulate conversations on the concepts learned for a particular chapter(s).

9.2 Data Identify social/ethical/legal issues in CS - 310/410/413/386

PC2: Identify specific social/ethical/legal issues relevant to the computing profession and evaluate appropriate and inappropriate responses to hypothetical instances of those issues.

CSCI 413 (includes data from CSCI 410):

Academic Year	Average score on PC1
2013-2014	2.80/3.00
2014-2015	2.40/3.00
2015-2016	2.76/3.00
2016-2017	4.83/5.00
2017-2018	3.39/5.00
2018-2019	4.04/5.00
2019-2020	3.92/5.00
2020-2021	3.36/5.00
2021-2022	4.00/5.00
2022-2023	4.19/5.00

CSCI 486 (effective Spring 2021):

Academic Year	Average score on PC1
2020-2021	4.53/5.00
2021-2022	3.57/5.00
2022-2023	4.24/5.00

CSCI 310 (effective Spring 2023):

Academic Year	Average score on PC1
2022-2023	4.67/5.00

Outcome Links

3E-PC2 [Program]
Identify specific social/ethical/legal issues relevant to the computing profession and evaluate appropriate and inappropriate responses to hypothetical instances of those issues.

9.2.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
The results shows that students demonstrated an understanding of ethical, legal, and social issues and responsibilities. The benchmark will be raised in 2017-2018 to 3.50 on a 5-point scale.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new Average BM (9.2) is changed to 3.50/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:
Performance as expected. Impacted by Covid 19.

2020-2021:
Most students only identified one code correctly. Some student identified none. Should arrange the lectures and talk about Code of Ethics at the beginning of this course and give more practice.

2021-2022:
The benchmark was met. The department wants another year of data before re-evaluating the benchmark, due to the after effects of the hurricanes and pandemic

2022-2023:

- CSCI 310: We concentrated on discussing ethical issues that were not clear cut. After each student presented their topic, they were asked to lead discussion using "OPEN ENDED" questions. This was a difficult concept for them to understand. they always had "yes/no" questions. Multiple times I had to workwith them to rephrase the question to be open ended. I think this might be a product of all the testing done in primary/seconday schools the they have done, yes/no, right wrong, what's to discuss. It seems that some students have forgotten how to think or even how to question themselves.
- CSCI 413: Student preformed as expected. More work restricting topic types etc needs to be implemented.
- CSCI 486: Overall, students did well on the final exam. For continuous improvement, students should apply more practice to lab simulations and lab questions. Students are allowed the opportunity to do this, but many do not take advantage of it. To further encourage this, students could be given bi-weekly discussion questions to stimulate conversations on the concepts learned for a particular chapter(s).

10 Assessment and Benchmark CSCI 309/413/491 Coursework

Assessment: The rubric evaluation of CSCI 309 - Database Management Systems and CSCI 491 - Seminar assesses the following Performance Criteria about ABET SLO D.

Prior to 2020-2021, the assessment was a rubric evaluation of CSCI 413 - Software Engineering II.

Students should demonstrate an ability to function effectively on teams to accomplish a common goal (ABET SLO D).

1. Contribute to team objectives through active participation in team activities.
2. Contribute to team objectives through performance of individual assigned tasks.
3. Contribute to team objectives through productive interdisciplinary activities.

Benchmark: An average score of 3.25/5.00 is the desired achievement level. A benchmark of 3.25 on a 5-point scale for the rubric evaluation of CSCI 309 - Database Management Systems and CSCI 491 - Seminar.

Prior to 2019-2020, the benchmark was 3.00 on a 5-point scale.
Prior to 2016-2017, the benchmark was 2.20 on a 3-point scale.

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

3d

Outcome Links

3D-PC1 [Program]
Contribute to team objectives through active participation in team activities

3D-PC2 [Program]
Contribute to team objectives through performance of individual assigned tasks

3D-PC3 [Program]
Contribute to team objectives through productive interdisciplinary activities.

ABET CAC [External]

ABET CAC 3D

An ability to function effectively on teams to accomplish a common goal

10.1 Data Active participation in team activities

PC1: Contribute to team objectives through active participation in team activities.

CSCI 413:

Academic Year	Average score on PC1
2013-2014	2.25/3.00
2014-2015	2.43/3.00
2015-2016	2.73/3.00
2016-2017	3.69/5.00
2017-2018	3.82/5.00
2018-2019	4.75/5.00
2019-2020	—
2020-2021	4.38/5.00
2021-2022	4.25/5.00
2022-2023	4.71/5.00

CSCI 309:

Academic Year	Average score on PC1
2020-2021	4.67/5.00
2021-2022	4.56/5.00
2022-2023	4.09/5.00

CSCI 491:

Academic Year	Average score on PC1
2020-2021	4.24/5.00
2021-2022	4.74/5.00
2022-2023	4.62/5.00

Outcome Links

3D-PC1 [Program]
Contribute to team objectives through active participation in team activities

10.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Students are adequately prepared to contribute to team objectives through active participation in team activities. Data shows steady improvements to this PC over the last three years. The benchmark will be monitored for possible change.

2017-2018:
The benchmark was met in 2017-2018 with improvement from the previous year. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new Average BM (10.1, 10.2, & 10.3) is changed to 3.25/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:

2020-2021:
Student preformed as expected. More work restricting topic types etc needs to be implemented.

Students preformed as expected. More direction and status reports possibly needed to help students who are not participating enough in their project.

2021-2022:
The benchmark was met.

2022-2023:

- CSCI 309 and 491: The benchmark for this period has been met. A small fluctuation in assessment values was seen, possibly due to students being used to pandemic level education from high school and early university. They lack experience working directly with others and as a team due to lockdown/Hurricanes. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. More personal attention should be paid the students to help raise their experience level.
- CSCI 413: Students did well in this year's final projects. The evaluation of their systems can be further improved.

10.2 Data Team - performance of individual assigned tasks

PC2: Contribute to team objectives through performance of individual assigned tasks.

CSCI 413:

Academic Year	Average score on PC1
2013-2014	2.25/3.00
2014-2015	2.30/3.00
2015-2016	2.85/3.00
2016-2017	4.06/5.00
2017-2018	3.75/5.00
2018-2019	4.60/5.00
2019-2020	—
2020-2021	4.38/5.00
2021-2022	4.25/5.00
2022-2023	4.14/5.00

CSCI 309:

Academic Year	Average score on PC1
2020-2021	4.92/5.00
2021-2022	4.80/5.00
2022-2023	4.09/5.00

CSCI 491:

Academic Year	Average score on PC1
2020-2021	4.05/3.00
2021-2022	—
2022-2023	4.62/5.00

Outcome Links

3D-PC2 [Program]
Contribute to team objectives through performance of individual assigned tasks

10.2.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
Students are adequately prepared to contribute to team objectives through performance of individual assigned tasks. For 2017-2018 the benchmark will be reviewed for adjustments.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new Average BM (10.1, 10.2, & 10.3) is changed to 3.25/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:

2020-2021:
Student preformed as expected. More work restricting topic types etc needs to be implemented.

Students preformed as expected. More direction and status reports possibly needed to help students who are not participating enough in their project.

2021-2022:
The benchmark was met in CSCI 309, no data was collected for 491.

2022-2023:

- CSCI 309 and CSCI 491: The benchmark for this period has been met. A small fluctuation in assessment values was seen, possibly due to students being used to pandemic level education from high school and early university. They lack experience working directly with others and as a team due to lockdown/Hurricanes. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. More personal attention should be paid the students to help raise their experience level. In addition, more granular goals may help.
- CSCI 413: Students did well in this year's final projects. The evaluation of their systems can be further improved.

10.3 Data Team - productive interdisciplinary activities

PC3: Contribute to team objectives through productive interdisciplinary activities.

CSCI 413:

Academic Year	Average score on PC1
2013-2014	2.00/3.00
2014-2015	2.19/3.00
2015-2016	2.78/3.00
2016-2017	—
2017-2018	3.75/5.00
2018-2019	4.38/5.00
2019-2020	—
2020-2021	4.25/5.00
2021-2022	—
2022-2023	3.96/5.00

CSCI 309:

Academic Year	Average score on PC1
2020-2021	4.67/5.00
2021-2022	4.80/5.00
2022-2023	4.09/5.00

CSCI 491:

Academic Year	Average score on PC1
2020-2021	4.24/5.00
2021-2022	4.74/5.00
2022-2023	4.62/5.00

Outcome Links

3D-PC3 [Program]
Contribute to team objectives through productive interdisciplinary activities.

10.3.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
For 2016-2017 the rubric has changed as data was not collected. Using the new rubric, data for PC3 will be collected in the 2017-2018 cycle.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with an improvement seen from the previous year. No action is needed. The new Average BM (10.1, 10.2, & 10.3) is changed to 3.25/5.00. The data collected will be monitored for possible benchmark change.

2019-2020:

2020-2021:
Student preformed as expected. More work restricting topic types etc needs to be implemented.

Students preformed as expected. More direction and status reports possibly needed to help students who are not participating enough in their project.

2021-2022:
The benchmark was met.

2022-2023:

- CSCI 309 and CSCI 491: The benchmark for this period has been met . A small fluctuation in assessment values was seen, possibly due to students being used to pandemic level education from high school and early university. They lack experience working directly with others and as a team due to lockdown/Hurricanes. Students with lower ACT scores are being given a wonderful opportunity to study at McNeese, and we have been working tirelessly to bring them up to speed for their success. More personal attention should be paid the students to help raise their experience level. In addition, more granular goals may help.
- CSCI 413: Students did well in this year's final projects. The evaluation of their systems can be further improved.

11 Assessment and Benchmark CSCI 491 Coursework

Assessment: The rubric evaluation of CSCI 491 - Seminar assesses the following Performance Criteria about ABET SLO G.

Students should have an ability to analyze the local and global impact of computing on individuals, organizations, and society (ABET SLO G).

1. Identify and orally discuss an international diversity component in the computing field.
2. Identify and orally discuss expert opinion/statistical analysis/evidence impacting the computing field.

Benchmark for PC1: An average of 3.30/5.00 is the desired achievement level. A benchmark of 3.30 on a 5-point scale for the rubric evaluation of "CSCI 491 - Seminar" for each of the SLOs is set.

Prior to 2017-2018, the benchmark was 3.00 on a 5-point scale.
Prior to 2016-2017, the benchmark was 2.00 on a 3-point scale.

Benchmark for PC2: An average of 3.00/5.00 is the desired achievement level. A benchmark of 3.00 on a 5-point scale for the rubric evaluation of "CSCI 491 - Seminar" for each of the SLOs is set.

Prior to 2016-2017, the benchmark was 2.00 on a 3-point scale.

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

3g

Outcome Links

3G-PC1 [Program]
Identify and orally discuss an international diversity component in the computing field.

3G-PC2 [Program]
Identify and orally discuss expert opinion/statistical analysis/evidence impacting the computing field.

ABET CAC [External]

ABET CAC 3G

An ability to analyze the local and global impact of computing on individuals, organizations, and society

11.1 Data Discuss an international diversity - in the computing field.

PC1: Identify and orally discuss an international diversity component in the computing field.

Academic Year	Average score on PC1
2013-2014	2.89/3.00
2014-2015	2.89/3.00
2015-2016	3.00/3.00
2016-2017	4.50/5.00
2017-2018	3.85/5.00
2018-2019	3.40/5.00
2019-2020	4.81/5.00
2020-2021	4.67/5.00
2021-2022	4.47/5.00
2022-2023	4.62/5.00

Outcome Links

3G-PC1 [Program]
Identify and orally discuss an international diversity component in the computing field.

11.1.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
The result shows that students demonstrated an ability to analyze the local and global impact of computing on individuals, organizations, and society. Students have provided excellent oral presentations on International Diversity component. The benchmark will be raised in 2017-2018 to 3.30 on a 5-point scale.

2017-2018:
The raised benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The new benchmark was met in 2018-2019. No action is needed. The data collected will be monitored for possible benchmark change.

2019-2020:
The new benchmark was met in 2019-2020. No action is needed. The data collected will be monitored for possible benchmark change.

2020-2021:
The new benchmark was met in 2020-2021. Concerns about cheating addresses with more policing and plagiarism training. No other action is needed. The data collected will be monitored for possible benchmark change.

2021-2022:
The new benchmark was met in 2021-2022. Concerns about cheating addresses with more policing and plagiarism training. No other action is needed. The data collected will be monitored for possible benchmark change.

2022-2023:
The new benchmark was met in 2022-2023. Cheating policing and plagiarism training has helped greatly with academic dishonesty issues of previous semesters. No other action is needed. The data collected will be monitored for possible benchmark change.

11.2 Data

PC2: Identify and orally discuss expert opinion/statistical analysis/evidence impacting the computing field.

Academic Year	Average score on PC2
2013-2014	2.17/3.00
2014-2015	2.17/3.00
2015-2016	2.30/3.00
2016-2017	2.86/5.00
2017-2018	3.65/5.00
2018-2019	3.89/5.00
2019-2020	4.75/5.00
2020-2021	4.92/5.00
2021-2022	4.47/5.00
2022-2023	4.62/5.00

Outcome Links

3G-PC2 [Program]
Identify and orally discuss expert opinion/statistical analysis/evidence impacting the computing field.

11.2.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
The result shows that students demonstrated an ability to analyze the local and global impact of computing on individuals, organizations, and society. Students need to work on incorporating statistical analysis, evidence, or expert opinion in CSCI 491 project. The SLO will be monitored for the next few cycles.

2017-2018:
The benchmark was met in 2017-2018 with improvment shown from previous year. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
The benchmark was met in 2018-2019 with some improvment compared to previous year. No action is needed. The data collected will be monitored for possible benchmark change.

2019-2020:
The new benchmark was met in 2019-2020. No action is needed. The data collected will be monitored for possible benchmark change.

2020-2021:
The new benchmark was met in 2020-2021. Concerns about cheating addresses with more policing and plagiarism training. No other action is needed. The data collected will be monitored for possible benchmark change.

2021-2022:
The new benchmark was met in 2021-2022. Concerns about cheating addresses with more policing and plagiarism training. No other action is needed. The data collected will be monitored for possible benchmark change.

2022-2023:
The new benchmark was met in 2022-2023. Cheating policing and plagiarism training has helped greatly with academic dishonesty issues of previous semesters. No other action is needed. The data collected will be monitored for possible benchmark change.

12 Assessment and Benchmark Alumni Survey

Assessment: Alumni Survey questions targeting ABET SLO B.

Benchmark: A benchmark of 2.00 on a 3-point scale for the Alumni Survey.

Outcome Links

ABET CAC [External]

ABET CAC 3B

An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

12.1 Data

Academic Year	Alumni Survey Average
2013-2014	2.67/3.00
2017-2018	4.05/5.00
2018-2019	—
2019-2020	—
2020-2021	N/A
2021-2022	N/A
2022-2023	N/A

12.1.1 Analysis of Data and Plan for Continuous Improvement

2013-2014:
The result shows that students demonstrated strong ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.

The reported data is the only data available to date. Continue tracking data when the next survey is completed.

2017-2018:
The benchmark was met in 2017-2018 with improvement from the previous year seen. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
Data is not collected for the 2018-19 period. Based on changes on ABET requirements a new cycle will be determined in 2019-20.

2019-2020:
The data was not collected due to the COVID-19 pandemic.

2020-2021:
The data was not collected due to the continuation of the COVID-19 pandemic and multiple hurricanes hitting campus.

2021-2022:
The benchmark was met in 2021-2022 with improvement from the previous year seen. No action is needed. The data collected will be monitored for possible benchmark change.

2022-2023:
The benchmark was met in 2022-2023 with improvement from the previous year seen. No action is needed. The data collected will be monitored for possible benchmark change.

13 Assessment and Benchmark Employer Survey

Assessment: Employer Survey questions targeting ABET SLOs B, D, and E.

Employer Survey questions targeting SLO B:
Benchmark: A benchmark of 2.50 on a 3-point scale for the Employer Survey.

Employer Survey questions targeting SLO D:
Benchmark: A benchmark of 3.50 on a 5-point scale for the Employer Survey.

Employer Survey questions targeting SLO E:
Benchmark: A benchmark of 3.50 on a 5-point scale for the Employer Survey.

Prior to 2016-2017, the benchmark was 2.00 on a 3-point scale.

Outcome Links

ABET CAC [External]

ABET CAC 3B

An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

ABET CAC 3D

An ability to function effectively on teams to accomplish a common goal

ABET CAC 3E

An understanding of professional, ethical, legal, security and social issues and responsibilities

13.1 Data

Employer Survey questions targeting SLO B.

Academic Year	Employer Survey Average
2013-2014	2.83/3.00
2014-2015	2.83/3.00
2015-2016	2.76/3.00
2016-2017	—
2017-2018	4.76/5.00
2018-2019	—
2019-2020	—
2020-2021	—
2021-2022	N/A
2022-2023	N/A

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

3b

Outcome Links

ABET CAC [External]

ABET CAC 3B

An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

13.1.1 Analysis of Data and Plan for Continuous Improvement Employer Survey

2016-2017:
The data will collected in the next cycle.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
Data is not collected for the 2018-19 period. Based on changes on ABET requirements a new cycle will be determined in 2019-20.

2019-2020:
Survey not completed due to COVID-19 pandemic

2020-2021:
Survey will be re-evaluated, since current department administration has looked at getting rid of the survey.

2021-2022:
Survey will be re-evaluated, since current department administration has looked at getting rid of the survey.

2022-2023:
Dr. Menon will speak with Employers about new survey questions, ready to go in the fall.

13.2 Data

Employer Survey questions targeting SLO D.

Academic Year	Employer Survey Average
2013-2014	2.83/3.00 (4.72/5.00*)
2014-2015	2.83/3.00 (4.72/5.00*)
2015-2016	2.76/3.00 (4.60/5.00*)
2016-2017	—
2017-2018	4.00/5.00
2018-2019	—
2019-2020	—
2020-2021	—
2021-2022	N/A
2022-2023	N/A

*Converted.

Outcome Links

ABET CAC [External]

ABET CAC 3D

An ability to function effectively on teams to accomplish a common goal

13.2.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
The data will be collected in the next cycle.

2017-2018:
The benchmark was met in 2017-2018. The data collected will be monitored for possible benchmark change.

2018-2019:
Data is not collected for the 2018-2019 period. Based on changes on ABET requirements a new cycle will be determined in 2019-2020.

2019-2020:
Data not collected due to COVID-19 pandemic.

2020-2021:
Data not collected due to COVID-19 pandemic and multiple hurricanes hitting the campus. Survey will be re-evaluated for future use.

2021-2022:

2022-2023:
Dr. Menon will speak with Employers about new survey questions, ready to go in the fall.

13.3 Data

Employer Survey questions targeting SLO E.

Academic Year	Employer Survey Average
2013-2014	2.83/3.00 (4.72/5.00*)
2014-2015	2.83/3.00 (4.72/5.00*)
2015-2016	2.76/3.00 (4.60/5.00*)
2016-2017	—
2017-2018	4.33/5.00
2018-2019	—
2019-2020	—
2020-2021	—
2021-2022	N/A
2022-2023	N/A

*Converted.

Outcome Links

ABET CAC [External]

ABET CAC 3E

An understanding of professional, ethical, legal, security and social issues and responsibilities

13.3.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
The data will be collected in the next cycle.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
Data is not collected for the 2018-2019 period. Based on changes to ABET requirements a new cycle will be determined in 2019-2020.

2019-2020:
Data not collected due to COVID-19 pandemic

2020-2021:
Data not collected due to COVID-19 pandemic and multiple hurricanes hitting the campus.

2021-2022:

2022-2023:
Dr. Menon will speak with Employers about new survey questions, ready to go in the fall.

14 Assessment and Benchmark Senior Exit Survey

Assessment: Senior Exit Survey questions targeting ABET SLO D and E.

Senior Exit Survey questions targeting SLO D:
Benchmark: A benchmark of 3.50 on a 5-point scale for the Senior Exit Survey.

Senior Exit Survey questions targeting SLO E:
Benchmark: A benchmark of 3.67 on a 5-point scale for the Senior Exit Survey.

Outcome Links

ABET CAC [External]

ABET CAC 3D

An ability to function effectively on teams to accomplish a common goal

ABET CAC 3E

An understanding of professional, ethical, legal, security and social issues and responsibilities

14.1 Data

Senior Exit Survey questions targeting SLO D.

Academic Year	Senior Exit Survey Average
2013-2014	2.65/3.00 (4.42/5.00*)
2014-2015	2.79/3.00 (4.65/5.00*)
2015-2016	2.73/3.00 (4.55/5.00*)
2016-2017	—
2017-2018	3.78/5.00
2018-2019	—
2019-2020	—
2020-2021	—
2021-2022	N/A
2022-2023	N/A

*Converted.

Outcome Links

ABET CAC [External]

ABET CAC 3D

An ability to function effectively on teams to accomplish a common goal

14.1.1 Analysis of Data and Plan for Continuous Improvement

2015-2016:
The result shows that students feel that they demonstrate an understanding of professional, ethical, legal, security and social issues and responsibilities.

2016-2017:
The data will be collected in the next cycle.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
Data was not collected for 2018-19 period. A new survey will be created to meet the new ABET requirements.

2019-2020:

2020-2021:

2021-2022:

2022-2023:
Faculty will go over old assessment material and make new questions, ready to go in the fall.

14.2 Data

Senior Exit Survey questions targeting SLO E.

Academic Year	Senior Exit Survey Average
2013-2014	2.76/3.00 (4.60/5.00*)
2014-2015	2.86/3.00 (4.77/5.00*)
2015-2016	2.40/3.00 (4.00/5.00*)
2016-2017	—
2017-2018	4.04/5.00
2018-2019	—
2019-2020	—
2020-2021	—
2021-2022	N/A
2022-2023	N/A

*Converted.

Outcome Links

ABET CAC [External]

ABET CAC 3E

An understanding of professional, ethical, legal, security and social issues and responsibilities

14.2.1 Analysis of Data and Plan for Continuous Improvement

2016-2017:
The data will be collected in the next cycle.

2017-2018:
The benchmark was met in 2017-2018. No action is needed. The data collected will be monitored for possible benchmark change.

2018-2019:
Data was not collected for 2018-19 period. A new survey will be created to meet the new ABET requirements.

2019-2020:

2020-2021:

2021-2022:

2022-2023:
Faculty will go over old assessment material and make new questions, ready to go in the fall.

End of report