

**Agenda and Evaluation Report for  
Audit & Review Face-to-Face Meeting  
University of Wisconsin-Whitewater  
Computer Science Majors and Minors, 2022-23**

**Date:** 4/19/2023

**Time:** 2:30-3:30

**Place:** Laurentide 4012

**Invited:** Provost John Chenoweth; Dean Frank Goza (L&S); Department Chair/Program Coordinator Jiazhen Zhou; faculty and staff in the Computer Science program Sue Roberts, Zach Oster, Hien Nguyen, Athula Gunawardena; Audit & Review Team Chair Denise Roseland; Audit & Review team members Pascal Latourneau, Rachael Chaphalkar; Assessment Representative Katy Casey

- 1) Introductions
- 2) Overview of review team evaluation, program comments
- 3) Discussion of Review Team's evaluation:
  - a) Given the available resources, what is the right balance of majors and minors that can be supported while still maintaining program quality and student enrollment level?

The biggest goal of the program is to secure tenure track faculty. This will help address the increasing workloads of current faculty and staff. The program continues to grow in enrollment, creates new tracks and courses to address student interests and employment demands. The staff are currently maintaining extremely high student to faculty teaching loads (42:1), and student interest groups, advising, and tutoring are additional time commitments.

- b) What are the most pressing resource needs of the program? What can the program do, or do more of, with an increase in these resources?
  - Discussed current staffing needs in the previous answer, two faculty lines are open and the program is close to filling one of the lines. However, the field is competitive and it is difficult to find candidates to accept positions at current salary offerings.
  - Department advocates well for their needs, and communicates regularly with Dean's office.
  - Technology needs of the program: Computer Science is mindful of the need to plan ahead when it comes to technology resources; these resources also require staff to support the technology.
  - Dean Goza noted that he believes resources will continue to be a problem because of staff turnover, and unless salaries increase and become more competitive it will be difficult to fill lines moving forward; the program should consider developing talented students to help address program needs

Dean Goza asked: What happens to the students who are not successful (roughly 30%)? The program thinks those students choose to transfer because lack of interest in the subject, and some finish in the liberal studies program. The program is working to identify those students early and support them prior to them getting too far along and end up with limited options.

The program requested additional funds to support students through tutoring. The program makes tutoring from faculty and students available, but finds the students do not take advantage.

Provost Chenoweth recognized the great work of the program and significant time commitment to create new tracks and courses, as well as supporting a large number of students. He encouraged the program to think through how to

support the third of students who struggle around the 1<sup>st</sup> semester sophomore point (where students are identified as repeating courses or failing core courses), and to consider a track for those students so they are retained somewhere at the University. The program noted the benefit of a new L&S advisor who has been supporting students during that point when they may need to find another course of study. They believe, with the help of this advisor, they will see improved retention rates.

- 4) **Recommended Actions:** The evaluation report lists three recommended action (see page 12, point 4) related to program management, assessment, and retention/graduation rates.
- 5) **Recommended Result:** *Continuation with minor concerns*
  - **Please make use of the detailed comments in the evaluation report (below).**
  - **Please select all applicable boxes and fill in the appropriate year:**
    - Next FULL self-study will be due to the Dean on October 1, 2027 and to the Assessment Office on November 1, 2027.**
- 6) Adjourn.

*Review team report is attached below, including Recommended Actions and instructions for Progress Reports (if required).*

**University of Wisconsin-Whitewater  
Review of Audit & Review Self-Studies  
Undergraduate Programs, 2022-23  
Majors/Minors and Standalone Minors**

Date of Evaluation 12/13/2022 Short Self Study (SS\*) \_\_\_\_\_

Program: Computer Science Major  Minor

**Evaluations submitted by:** Denise Roseland; Corey Davis; Pascal Letourneau; Fe Evangelista; Katy Casey

**Review meeting attended by:** Denise Roseland; Corey Davis; Pascal Letourneau; Fe Evangelista; Katy Casey

**I. General Program Information**

**1. The program's mission statement reflects the nature and scope**

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

**2. The program is aware and reflective of changes affecting improvement since the last review.**

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0
First self-study for the program	0

**3. Characteristics of the program set it apart from others when compared regionally and nationally. The unique aspects of the program attract students.**

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

**4. The program has been responsive to actions recommended from the previous Audit and Review Reports; Progress Reports have been submitted, if relevant.**

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0
First self-study for the program	0

**5. The program has achieved or maintained program-level accreditation or has considered seeking it, where appropriate (only select N/A if there is no accreditation available).**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

N/A

0

### General Comments related to Section I

It is worrisome to know that UW Whitewater salaries for Computer science are about \$20k lower than UW Eau-Claire or UW La Crosse.

1. This question wasn't directly addressed in this section, but evidence can be inferred from responses to related questions (e.g., Section IV.). 2. 1. This question wasn't directly addressed, but evidence is present in responses to questions about recommendations from previous review. 3. Only bachelor's in cybersecurity in UW System. Students have professional development opportunities through partnerships with local employers. 4. Program has been responsive, but they have constraints such as software license budget, which prevent them from fully addressing all concerns. 5. Some emphases have available accreditation; some do not. NO emphases are accredited. The Department's advisory board has advised them against seeking accreditation.

1 and 3. The mission statement reflects the program's purpose and this is reflected in the strengths of the program and what sets them apart from other programs.

The program's response to previously recommended actions from Audit & Review related to Assessment is great! The choice to not prioritize accreditation given the faculty shortage is informed by valuable industry input.

## II. Alignment within the University

### 1. The program contributes to the fulfillment of UW-Whitewater's Mission and Strategic Plan.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

### 2. The program supports general education and/or proficiency programs at the University.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

### 3. The program is collaborative and supports other academic programs across the College and/or University.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

### General Comments related to Section II

Love the Thinking in Code LC involvement and the support of Peer Tutors. Applaud the partnerships with regional employers and the use of Social media to maintain connections. Lots of evidence that shows the MANY ways this program collaborates with other programs at the University to prepare students for an array of careers where computer science knowledge and skills are integral.

It is surprising that the computer science program does not have more collaboration with business programs.

2. All 100-level COMPSCI courses are currently approved for General Education credit in the Quantitative Reasoning (GQ) category. 3. Computer Science supports 7 other undergraduate programs and the COMPSCI grad program.

1. The program is an economic driver in the state. The creation of the Applied Computing emphasis provides a pathway to a 4-year degree for students in technical colleges as well as increasing enrollment in UWW programs. 3. The program has collaborative relationships with other departments on campus.

### III. Program Goals & Accomplishments

#### 1. Goals and objectives were identified and undertaken to improve/advance the program.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

#### 2. Goals currently in place will contribute to the program's advancement. Criteria for determining success were measurable and attainable.

Sufficient Evidence	1
Some/Partial Evidence	4
No/Limited Evidence	0

#### 3. The program has a process for setting and assessing goals and making decision about changes to the program.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

#### General Comments related to Section III

It appears that the number of goals set over the past five years has been inadequate. While the goals themselves may be compelling, they lack specificity and are difficult to quantitatively evaluate. Furthermore, it is recommended that the program's objectives be reviewed on a more frequent basis than twice annually.

1. The Department is pursuing 4 different objectives across Goals 1, 2 and 5.

1. It is commendable that enrollment in the program has remained steady in the last few years. It's great that minor programs have been created to provide options to students, but this should also be balanced with what the program can reasonably sustain given the current budgetary constraints. 2. I'm glad that the program is starting to address the declining numbers of female students. Do they have a plan on how this will be accomplished?

Applaud the goal to recruit more females into computing and there is work to be done in that effort. Are you connected to any of the state and national programs that focus on the recruitment of women into computing? In what ways does the curriculum reflect women's' contributions to the profession and reflect ways in which women might apply computing in their careers (in ways that differ from males)? Are female role models visible in the program (through the Advisory Board, the employer partnerships, the curriculum)?

## IV. Curriculum

### 1. The program has a clearly articulated, efficient, and purposeful curriculum.

Sufficient Evidence	3
Some/Partial Evidence	1
No/Limited Evidence	0

### 2. The program prepares students in majors, minors, and related emphases tracks in post-graduation and other applicable experiences.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

### 3. Appropriate assessment data were used in making curricular revisions.

Sufficient Evidence	1
Some/Partial Evidence	4
No/Limited Evidence	0

### 4. Students participate in the high impact practices.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

### General Comments related to Section IV

1- Focusing on a single programming language in depth can provide a strong foundation for the student and allow them to develop a high level of proficiency in that language. However, teaching multiple programming languages can also have benefits, as it can give the student a broader understanding of the field and make them more versatile in their ability to apply their skills to different contexts. Streamlining the program might not be most strategic decision. I think it would be important to ask the Advisory Board and Students. Do students pick Whitewater because of the broader array of programming language? 3- The curriculum has undergone several modifications, but it is unclear how these changes align with the assessment of student learning objectives. 2- The rationale for each major in the program and how they prepare students for post-graduate careers is compelling, but it would be strengthened by including employment data and projections for the near future.

3. Program changes were driven by: student feedback, changes made by other programs, and program assessment data. One assessment example is that all COMPSCI majors now complete both COMPSCI 366 and 476 due to a gap that was identified in curricular mapping.

1,2,3. The program regularly evaluates and makes changes to the curriculum to make sure that it is current and addresses the career needs of their graduates. They also pay attention to barriers to student success and make changes to the curriculum to lower or remove those barriers.

I love the Applied Computing emphasis added on 2021 that created a pathway from 2-yr/technical college to BA/BS degree. A strong history of ongoing revisions and updates to curriculum that seem appropriate for the evolution of the field. Strong presence of high-impact practices in the program as well.

## V. Assessment of Student Learning

### 1. The program has clearly articulated learning outcomes for students.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

### 2. Student learning outcomes are "mapped" to the curriculum.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

### 3. The program provided a timeline indicating when faculty and staff assess SLOs. The timeline is manageable and sustainable.

Sufficient Evidence	0
Some/Partial Evidence	0
No/Limited Evidence	5

### 4. The program collected a variety of appropriate assessment data allowing judgements about the extent to which students are achieving learning outcomes.

Sufficient Evidence	3
Some/Partial Evidence	2
No/Limited Evidence	0

### 5. Program faculty consider assessment data in making changes to the curriculum, students' learning outcomes, and/or other aspects of the program.

Sufficient Evidence	4
Some/Partial Evidence	0
No/Limited Evidence	1

### 6. Student learning outcomes are aligned with the LEAP Essential Learning Outcomes in a way that is reasonable and meaningful.

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

**7. Overall, the program has an appropriate assessment plan for measuring students' progress in attaining the outcomes.**

Sufficient Evidence	1
Some/Partial Evidence	3
No/Limited Evidence	0

**General Comments related to Section V**

3- The Assessment Plan Document suggests that assessment of student learning outcomes is integrated into each core course and that all students are assessed when they take that course. However, this is not explicitly stated in the document. 4- I did not see anything about indirect assessment through, for example, exit surveys. 7- I was not able to easily link the assessment data on SLOs and changes to the curriculum.

1 and 2. The program has made substantial progress in assessment of SLOs. 3 and 7. I did not see a timeline. Is there a full assessment plan?

The assessment plan has given faculty and the program important information to understand student outcomes. Action points identified are excellent and have the potential to enhance student and program outcomes.

**VI. Student Recruitment, Enrollment, Retention, and Graduation: A. Trend Data**

**1. [MAJORS ONLY] Five-year enrollment and graduation trends reflect program vitality and sustainability.**

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

**2. [MAJORS ONLY] Credits-to-degree show that students can complete the degree in four years, or reasonably efficiently.**

Sufficient Evidence	0
Some/Partial Evidence	0
No/Limited Evidence	5

**3. [MAJORS ONLY] As a follow up to program enrollment and graduation, describe the strategies used to recruit and retain students.**

Sufficient Evidence	4
Some/Partial Evidence	1
No/Limited Evidence	0

**4. Composition of students approximates or exceeds the diversity of students at the University.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**5. Students can enroll in appropriate courses and proceed without delaying graduation.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**6. Claim that the program is oversubscribed, undersubscribed, or at optimum level is justified or supported by examples or data.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**General Comments related to Section VI.A**

4. The percentage of URM students from 2017 to 2022 is slightly higher than that of the university with the exception of 2019-2020. 6. Student to faculty ratio is higher than the ideal (42:1 vs. 32:1).

1,2. Graduation data was not uploaded. I'm curious about the observation that the program has been "tested." What does that mean?

2. The credits to degree do exceed 128- has the program considered the impact on retention and student success?

**VI. Student Recruitment, Enrollment, Retention, and Graduation: B. Demand for Graduates****1. [MAJORS ONLY] Placement information indicates that program graduates find employment or continue their education.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**2. Data suggests that employment opportunities for graduates of this program will remain strong.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**General Comments for VI.B**

None

**VII. Resource Availability & Development: A. Faculty and Staff Resources**

**1. Information on numbers of full and part-time faculty and staff are provided. Expertise of teaching staff are aligned with the needs and future vision for the program.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**2. Information is provided about changes in the faculty since the last Audit and Review.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**3. The program has identified staffing changes and anticipated areas of potential future need.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**General Comments related to section VII.A**

3. The program is understaffed.

There is no doubt this program needs successful tenure-track hires.

**VII. Resource Availability & Development: B. Student Resources**

**1. The program has adequate personnel, student help, and service and supplies to serve its undergraduate students.**

Sufficient Evidence	0
Some/Partial Evidence	5
No/Limited Evidence	0

**2. The program has adequate facilities equipment, technological, and library resources to effectively serve its students.**

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

**General Comments for VII.B**

1. The program is seriously understaffed.

1. FYI - The program's supply budget has been increased in the last 2 years. It is currently almost double the figure listed in this self-study.

The need for additional student resources seems well-justified.

## VIII. Conclusions and Recommendations from the Department or Program

### 1. Areas of strength are discussed.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

### 2. Areas of improvement and continued progress are discussed.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

### 3. Recommendations and resources are discussed.

Sufficient Evidence	5
Some/Partial Evidence	0
No/Limited Evidence	0

### General Comments for VIII

None

## VI. Reviewer Conclusions

### 1. Strengths of the Program

The department offers a diverse and extensive selection of programs and courses for students to choose from.

Multiple emphases serving student interests and workforce demands. Multiple courses serve General Education GQ requirements/electives. High enrollment. Bridge opportunity to graduate programs.

- Strong emphasis on creating a collaborative learning environment and providing HIPs for students. - Department is forward-looking and makes changes to their curriculum accordingly. Their Advisory Board, alumni, and industry partners provide feedback. - Hard-working and committed faculty and staff. - Collaborative and interdisciplinary.

Engaged faculty with a variety of expertise in the computing field. Seems that the new assessment plan has fostered a renewed value for gathering and examination of data important to program decision-making despite being understaffed. Impactful connections with employers in the region. The programs' engagement in supporting the University mission is impressive.

## 2. Areas for Work or Improvement

The department should make a conscious effort to align student learning assessment with changes to the curriculum and planning and vision for the near future. The salary issue is a concern. Does the department believe that the program can continue to operate under these conditions? It may be necessary for the department, along with the direction and the Advisory board, to establish priorities. Should the University prioritize addressing the salary and hiring issues in order to continue growing the program, or should it focus on restructuring the program to work with the current set of constraints? These are important questions that need to be considered carefully.

Address staffing shortage and related extraordinarily high student to faculty ratio.

The relatively low salaries is a big challenge which impacts recruitment and retention of faculty, and could impact the sustainability of their programs.

Recruitment/retention of females

## 3. Other comments/questions

Missing full assessment plan upload.

This is a thoughtful and well-written self-study. - Is the program over-extending itself? Given the available resources, what is the right balance of majors and minors that can be supported while still maintaining program quality and student enrollment level?

Is there a recruitment or a retention challenge with females? With the kind of faculty turnover you have had among new hires, wondering what is known about the perceived climate of the department/college/university/community that might contribute to this issue.

## 4. Recommended Actions (please specify):

- 1) Lay out a clear, realistic and feasible plan/vision for the program addressing program management, hiring, and retention of faculty.
- 2) Include a timeline in the assessment plan and review the assessment process to reflect 5-years of activity. Describe how the program shares, makes meaning of, and uses the data collected from embedded assessments.
- 3) Review retention and graduation rates of major and identify potential barriers to success (e.g., relatively high DFW rates in introductory courses).

## 5. Recommended Result

No progress report is required.

Insufficient Information in the self-study to make a determination; revise self-study & resubmit.	0
Continuation without qualification. Next self-study will be a shortened one focusing on the Recommended Actions from the current report.	0
Continuation with minor concerns. Progress report may be required, at the discretion of the review team.	5
Continuation with major concerns in one or more of the four areas; submit annual progress report to the College Dean & Associate Vice Chancellor for Academic Affairs on progress addressing the major concerns	0
Withhold recommendation for continuation, place on probation, and require another complete Audit & Review self-study within 1-3 years, at the Committee's discretion.	0
Withhold recommendation for continuation, place on probation, recommend placing in receivership within the college, and require another complete Audit & Review self-study within 1-3 years at the Committee's discretion.	0
Non-continuation of the program.	0
Report not submitted; refer to Provost for action.	0