

## Department and College Post Self-Study Action Plan

*Instructions - Department needs to prepare an action plan over the next 5 years. This step provides the department the opportunity to reflect on the findings of the self-review and external peer review. Through the development of the action plan the department can address areas of weakness, plan for improvements and new opportunities. Categorize all actions into one of the following areas: Program/Curriculum, Student Learning & Assessment, Student Success, Faculty, Staff, Facilities/Space, Equipment, Computing Resources, Operating Budget and Other. The Dean of the College is expected to review the self-study, external review and action plan and provide their recommendation. The department signs the document prior to submitting to the Dean's office.*

### Department of Computer Science College of Science

→The reviewers identified the following program **strengths**:

- The MSCS curriculum is well-designed, reflecting modern technologies and providing students with rich research opportunities via thesis and project options.
- The department faculty are highly motivated teacher-scholars.
- The department has a collegial working environment.
- The program admitted and enrolled students who are well-suited for success.
- The department has dedicated staff members.
- The university provides tenure-line faculty adequate support for teaching and research, including s-factor for thesis/project supervision and internal grant.
- The college dean is supportive of the department.
- The self-study clearly shows the alignment between courses and CPP's elements of Inclusive Polytechnic Education.
- The department has a solid and feasible plan to conduct assessment. The assessment committee has expertise.
- Faculty share the load in teaching graduate courses and supervising thesis projects. Faculty skills are diverse.

Department response: Most of the report is quite positive with constructive suggestion to maintain a high-quality program.

→The reviewers identified the following **challenges**:

- The program educational objectives (PEOs) should be broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.
- PEOs and Student Learning Outcomes (SLOs) are not aligned with the University/College's mission, vision, and values.
- The "Mission, Vision, Values" statement for the program is a brief statement, which should be expanded.
- The MS faculty does not currently have data from previous years.
- MS students need individual permission numbers because their prerequisite courses are not updated on BroncoDirect.

Department response: The reviewers presented several challenges. We recognize these challenges and will work on refinement of the PEOs and SLOs such that they are better aligned with the University/College's mission, vision, and values. The department will also need a dedicated permanent staff to help handle the permission numbers, graduate student registrations, etc.

→The external reviewers made the following **recommendations**:

- The self-study report can include more data such as percentage of international students, equity gap analyses, etc.
  - Response: We will take this into consideration in our next report.
- The MSCS program may consider offer concentrations to provide depth of study in specific computing areas.

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- Response: The department will discuss this further; may initially provide a recommendation of courses based on different computing areas.
- The department should specify SLOs in the required MSCS courses.
  - Response: Good suggestion.
- The college should provide grader support for mid-size classes (50-70) to better support faculty for teaching.
  - Response: Our current MSCS program has ~100 students enrolled. Faculty has to increase their graduate class size as well to accommodate the student cohort. We would like to request grader support for our large graduate courses as well. Otherwise, additional graduate sections will be needed to graduate our students on time.
- The department is encouraged to open a discussion about offering classes in various instructional modes.
  - Response: The department will start a discussion on the instructional mode and will need the College/University's support on the flexibility in scheduling and offering classes in different modes.
- The department should provide roadmaps for the graduate students on the department webpage.
  - Response: The department will work on the roadmap.
- There's a need for more secured research spaces. The college should survey available spaces in the building and consider allocating more research spaces for the department.
  - Response: We would like to the College to take a lead on this space analysis as the department is getting more equipment to support student research.
- The department should consider increase the frequency of elective course offerings to meet student needs.
  - Response: The department will need to hire more tenure-line faculty to accommodate the increasing student demands, particularly because the majority of MS classes are offered by tenure-line faculty.
- The department should hire a dedicated assistant to the department.
  - Response: We would like the College to take a lead on proper staff allocation and support.
- The department should consider forming an MSCS admission taskforce or identifying one more faculty so as to distribute the MS coordinator's workload.
  - Response: The department would consider creating two graduate coordinator positions. One for pre-admission advising & admissions review related tasks and another for MS program advising for current students for their program planning, progress and graduation. The admission coordinator can discuss the preliminary selected admission files with the graduate committee to finalize the admission decisions.
- The department should follow recommendations on the feedback from the Assessment and Review Program Office to MS program Annual Assessment reports.
  - Response: The College needs to support the additional coordinator with release time to handle the workload.

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### Short Term Priorities – Minimum of 5 key items identified that will take 1 to 2 years to implement

Category	Proposed Action	Responsible Party	Resources	Timeframe – Start and End
Program/Curriculum	Revisit Program Educational Objectives (PEOs)--need broad statement and alignment with University/College Mission, Vision and Values	Department / Graduate Committee / Assessment Committee	Time	2022-23
Program/Curriculum	Provide a roadmap for graduate students on the department website	Department/Graduate/ Curriculum Committee	Time	2022-23
Program/Curriculum	Develop career pathways in the MS program, e.g., AI, cyber, data science.	Department/Graduate & Curriculum Committees	Time	2023-24
Student Learning & Assessment	Mapping of Student Learning Outcomes (SLOs) to PEOs with the same alignment as above	Department/Graduate & Curriculum Committees	Time	2023-24
Student Learning & Assessment	Develop a concrete assessment cycle for the next three years	Department / Graduate Committee	Time	2023-24
Student Success	Support the success of current MS students: <ul style="list-style-type: none"> <li>• Explore the optimal size of the graduate program based on the number of tenure-line faculty and course section capacity</li> <li>• Develop larger graduate class model with grader support or additional units</li> <li>• Support with either more tenure-line or qualified part time lecturers to offer more sections</li> </ul>	Department/College	Funding	2022-24
Staff	Hire one full-time staff to provide support to the MSCS program and growth in the undergraduate program ( <i>completed Feb. 2023</i> )	College/University	Funding	2022-23

### Long Term Priorities – Minimum of 5 key items identified that will take 3 to 5 years to implement.

Category	Proposed Action	Responsible Party	Resources	Timeframe – Start and End
Program/Curriculum	Determine online components for the current MS program	Department/College	Time	Starting 2022-23
Program/Curriculum	Complete a feasibility study of an online self-support MS program	Department/College	Time	Starting 2022-23
Faculty	Manage the load of graduate student admission/ advising: <ul style="list-style-type: none"> <li>• Identify one more faculty and distribute the coordinator workload with support</li> <li>• Redefine the responsibilities of the graduate committee</li> </ul>	College	Funding	Starting 2022-23
Facilities/Space	The department needs a secure workspace for MS student projects	College/University	Funding, space	Starting in 2022-23

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**Signature Page**

Department Faculty Name	Signature
Tingting Chen	<i>Tingting Chen</i>
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Ericsson Santana Marin	<i>Ericsson</i>
Amar Raheja	<i>Amar Raheja</i>
Salam Salloum	<i>Salam N-Salloum</i>
Yu Sun	<i>Yu Sun</i>
Fang Tang	<i>Fang Tang</i>
Yunsheng Wang	<i>Yunsheng Wang</i>
Mingyan Xiao	<i>Mingyan Xiao</i>
Lan Yang	<i>Lan Yang</i>
Gilbert Young	<i>Gilbert Young</i>
Hao Ji	<i>Hao Ji</i>

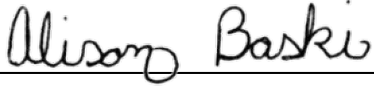
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03/13/2023

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Department Chair



10/20/2023

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Dean



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Office of Assessment and Program Review