Expected Outcome 1: Broad Computer Science Knowledge
Our graduates will demonstrate a thorough understanding of the basic sciences broadly associated with the area of computer science.

Assessment Method 1: Computer Science Knowledge-Faculty Evaluation

Assessment Method Description
To fulfill degree requirements for the M.S. in Computer Science an M.S. candidate must have a written Thesis of their research work approved by their graduate committee (typically made up of three faculty within Computer Science and Software Engineering) and must successfully defend this Thesis in an oral defense. During the oral defense of the students research work, a standardized form (see Appendix A) will be completed by all members of the committee dealing with various issues including; students demonstration of an understanding of the basic sciences associated with computer science, ability of the student to apply the fundamentals of computer science to their research work, etc. The students performance in each of these areas will be ranked on the standardized assessment form as Excellent (3pts), Acceptable (2pts), or Unacceptable (1pt).

Target level:
We anticipate that the average score of our students in each category will be 2.0 or higher.

Findings
2 students completed their M.S. degree in computer science during this evaluation period. These students’ committee members (three faculty) responded to the following questions regarding this students performance. The committee members scored their answers as Excellent (3pts), Acceptable (2pts), or Unacceptable (1pt).
Average Score Question
3.0 Please evaluate the student’s oral defense and thesis in terms of the student’s demonstration of an understanding of the basic sciences associated with computer science and software engineering.

3.0 Please evaluate the student’s oral defense and thesis in terms of the students’ ability to apply the fundamentals of computer science and software engineering to their research work.

The average scores on these two survey questions were equal or greater than the anticipated score of 2.

How did you use findings for improvement?
The Graduate Program Committee has communicated these results to the faculty as well as other stakeholders. We will continue to look for opportunities to improve the program and the learning experience for the students.

Additional Comments
None

Assessment Method 2: Computer Science Knowledge-Student Survey

Assessment Method Description
Upon completion of the degree requirements for the M.S. in Computer Science, each student will be asked to fill out a graduation survey covering several items including the following question:
- To what degree did your M.S. engineering education enhance your understanding of the basic sciences broadly associated with the area of computer science?

Target level:
We expect that our student's responses should average a score of 4 out of 7 on this question.

Findings
These students responded to the following question using this response key.
Response Key 1 – Very Poor, 2 – Poor, 3 – Fair, 4 – Good, 5 – Very Good, 6 – Excellent, 7 – Exceptional

Average Score Question
6.0 To what degree did your M.S. engineering education enhance your understanding of the basic sciences broadly associated with the area of
computer science?

The average score on this survey question was greater than the anticipated score of 4.0

**How did you use findings for improvement?**
The Graduate Program Committee has communicated these results to the faculty as well as other stakeholders. We will continue to look for opportunities to improve the program and the learning experience for the students.

**Additional Comments**
None

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**Expected Outcome 2: Communications Skills**
Our students will demonstrate proficiency in their communication skills through completion of a Master’s Thesis on their research topic and an Oral Defense of that Thesis work.

**Assessment Method 1: Communications Skills-Faculty Survey**

**Assessment Method Description**
To fulfill degree requirements for the M.S. in Computer Science an M.S. candidate must have a Thesis of their research work approved by their graduate committee and must successfully defend this Thesis in an oral defense. During the oral defense of the students research work, a standardized form will be completed by all members of the committee dealing with various issues including; clarity of the written document, organization and logic of the written document, ability of the student to communicate technical ideas within the written document, clarity of the oral presentation, organization and logic of the oral presentation, and the ability of the student to communicate technical ideal in the oral presentation. The students performance in each of these areas will be ranked on the standardized assessment form (see Appendix A) as Excellent (3pts), Acceptable (2pts), or Unacceptable (1pt).

**Target level:**
We anticipate that the average score of our students in each category will be 2.0 or higher
Findings

2 students completed their M.S. degree in computer science during this evaluation period. This students’ committee members (three faculty) responded to the following questions regarding this students performance. The committee members scored their answers as Excellent (3pts), Acceptable (2pts), or Unacceptable (1pt).

Average Score Question

3.0 Please evaluate the student’s written document in terms of its clarity, organization and logic, and the ability of the student to communicate technical ideas in this written form.

3.0 Please evaluate the student’s oral defense in terms of the clarity of the oral presentation, organization and logic of the presentation and the ability of the student to communicate technical ideas orally.

The average scores on these two survey questions were equal to or greater than the anticipated score of 2.0

How did you use findings for improvement?

The Graduate Program Committee has communicated these results to the faculty as well as other stakeholders. We will continue to look for opportunities to improve the program and the learning experience for the students.

Additional Comments
None

Assessment Method 2: Communications Skills-Student Survey

Assessment Method Description
Upon completion of the degree requirements for the M.S. in Computer Science, each student will be asked to fill out a graduation survey covering several items including the following questions:
- To what degree did your M.S. engineering education enhance your ability to communicate through written documents?

- To what degree did your M.S. engineering education enhance your ability to communicate orally?
Target level:
We expect that our student's responses should average a score of 4 out of 7 on each question.

Findings
These students responded to the following question using this response key. Response Key 1 – Very Poor, 2 – Poor, 3 – Fair, 4 – Good, 5 – Very Good, 6 – Excellent, 7 – Exceptional

Average Score Question
5.0 To what degree did your M.S. engineering education enhance your ability to communicate through written documents?

6.0 To what degree did your M.S. engineering education enhance your ability to communicate orally?

The average scores on these survey questions met or exceeded the anticipated score of 4.0

How did you use findings for improvement?
The Graduate Program Committee has communicated these results to the faculty as well as other stakeholders. We will continue to look for opportunities to improve the program and the learning experience for the students.

Additional Comments
None

Expected Outcome 3: Research Expertise
Our graduates will demonstrate a thorough understanding of the basic sciences broadly associated with the area of computer science.

Assessment Method 1: Research Expertise-Faculty Survey
Assessment Method Description
To fulfill degree requirements for the M.S. in Computer Science an M.S. candidate must have a Thesis of their research work approved by their graduate committee (typically made up of three faculty within Computer Science) and must successfully defend this Thesis in an oral defense. During the oral defense of the students research work, a standardized form (see Appendix A) will be completed by all members of the committee dealing with various issues
including; students demonstration of an expertise in their research area, technical quality of the students research in this area. The students performance in each of these areas will be ranked on the standardized assessment form as Excellent (3pts), Acceptable (2pts), or Unacceptable (1pt).

Target level:
We anticipate that the average score of our students in each category will be 2.0 or higher.

Findings
2 students completed their M.S. degree in computer science during this evaluation period. These students’ committee members (three faculty) responded to the following questions regarding this students performance. The committee members scored their answers as Excellent (3pts), Acceptable (2pts), or Unacceptable (1pt).

Average Score Question
3.0 Please evaluate the student’s oral defense and thesis in terms of the student’s demonstration of an expertise in their research area.

3.0 Please evaluate the student’s oral defense and thesis in terms of the technical quality of the student’s research in this area.

The average scores on these two survey questions were met or exceeded the anticipated score of 2.0

How did you use findings for improvement?
The Graduate Program Committee has communicated these results to the faculty as well as other stakeholders. We will continue to look for opportunities to improve the program and the learning experience for the students.

Additional Comments
None

Assessment Method 2: Research Expertise-Student Survey

Assessment Method Description
Upon completion of the degree requirements for the M.S. in Computer Science, each student will be asked to fill out a graduation survey covering several items including the following question:
- To what degree did your M.S. engineering education (through your thesis work) develop your expertise in a specific area of computer science?
Target level:
We expect that our student's responses should average a score of 4 out of 7 on this question.

**Findings**
These students responded to the following question using this response key.

Response Key
1 – Very Poor, 2 – Poor, 3 – Fair, 4 – Good, 5 – Very Good, 6 – Excellent, 7 – Exceptional

Average Score Question

6.0 To what degree did your M.S. engineering education (through your thesis work) develop your expertise in a specific area of computer science?

The average score on this survey question met the anticipated score of 4.0

**How did you use findings for improvement?**
The Graduate Program Committee has communicated these results to the faculty as well as other stakeholders. We will continue to look for opportunities to improve the program and the learning experience for the students.

**Additional Comments**
None
Appendix A

M.S. Program Assessment Form for Committee Members

Committee Member Name: ________________________

Student Name: ________________________

Student Degree Sought: M.S.   Graduation month/year ________ / ________

Please mark the following questions with a score of Excellent (3 pts), Acceptable (2 pts), or Unacceptable (1 pts). Circle only one below

<table>
<thead>
<tr>
<th>Score (Circle One)</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>3, 2, or 1</td>
<td>Please evaluate the student’s oral defense and thesis in terms of the student’s demonstration of an understanding of the basic sciences associated with computer science and software engineering.</td>
</tr>
<tr>
<td>3, 2, or 1</td>
<td>Please evaluate the student’s oral defense and thesis in terms of the student’s ability to apply the fundamentals of computer science and software engineering to his/her research work.</td>
</tr>
<tr>
<td>3, 2, or 1</td>
<td>Please evaluate the student’s oral defense and thesis in terms of the student’s demonstration of an expertise in his/her research area.</td>
</tr>
<tr>
<td>3, 2, or 1</td>
<td>Please evaluate the student’s oral defense and thesis in terms of the technical quality of the student’s research in this area.</td>
</tr>
<tr>
<td>3, 2, or 1</td>
<td>Please evaluate the student’s written document in terms of its clarity, organization and logic, and the ability of the student to communicate technical ideas in this written form.</td>
</tr>
<tr>
<td>3, 2, or 1</td>
<td>Please evaluate the student’s oral defense in terms of the clarity of the oral presentation, organization and logic of the presentation and the ability of the student to communicate technical ideas orally.</td>
</tr>
</tbody>
</table>