- If the new program will be included in an existing program's assessment plan, how will the assessment data be disaggregated to provide useful information on the new program? How will the new program participate in assessment? Are there any unique assessment needs or constraints (may include delivery mode, for example)?

The proposed assessment plan is attached as Appendix A (p. 39).

VI. Curriculum

Questions to ask:

- What courses will be required?
- What electives (if applicable) will be available?
- What courses from other departments/colleges will be used? *(Document support from those units.)*
- How do the required courses align with the student learning outcomes to ensure students can build and refine skills and knowledge over time? Has the curriculum been mapped?
- If this is an undergraduate program, how have the needs of transfer students been taken into account in planning for it? What arrangements are in place to ensure that pre-requisites are readily available and that CC students will be appropriately prepared and well advised? If this is an undergraduate program offered at a location other than Pullman, how have local community colleges and their faculties been involved in planning for it?

Please attach a curriculum map (matrix aligning courses and the program's student learning outcomes)

Section VI.1 provides a summary outline for the proposed MSSE degree. Following are a curriculum map aligning the courses and the student learning outcomes (Section VI.2), examples of full-time and part-time study plans (Sections VI.3 and VI.4, respectively), and a summary description of the courses (Section VI.5).

The syllabi for the new courses are provided in Appendix B (p.40) and major change forms are simultaneously being submitted to the Faculty Senate.

1. Summary outline of the degree

The proposed MSSE program requires 5 few Software Engineering courses, 2 of which are shared with the BSSE program and are part of the core courses. The MSSE program reuses 3 existing Computer Science courses, one of which is a core course and the two others are electives. The MSSE program also uses 2 Engineering Management courses as part of the advanced courses. The proposed MSSE program requires 30 credits; following is an outline of the degree:

Core courses (9 credits)

Cpt S 516*: Algorithmics*
Cpt S 484: *Software Requirements*
Cpt S 487: *Software Design and Architecture*

Advanced courses (15 credits)

Cpt S 581: *Software Maintenance*
Cpt S 582: *Software Testing*
Cpt S 583: *Software Quality*
E M 522: *Leadership, Supervision and Management*
E M 564: *Project Management*

Elective courses (6 credits)

Cpt S 580: *Advanced Databases*
Cpt S 564: *Distributed Systems Concepts and Programming*
Or any other 5xx level course in Software Engineering, Computer Science, Computer Engineering, or Math. The courses that are not offered online through the proposed degree can be taken locally and transferred into the program upon approval by the Graduate Studies Committee.

Capstone Requirement: The requirement for the Capstone Experience are that students must pass at least two of the following courses with a grade of B or higher in each:

Cpt S 581: Software Maintenance
Cpt S 583: Software Quality
Cpt S 582: Software Testing

A GSC Examination Committee will evaluate the grades and ballot on the results of the grades in the Capstone courses.

A student may request an exception to policy to repeat a capstone course in which he/she scores below a below a B ***just once***; if he/she cannot earn the required grade after retaking the course, he/she will be dismissed from the program.

Students must have a minimum 3.0 GPA on their program of study as well as on the transcript to be eligible to graduate.

2. Curriculum map aligning courses and the student learning outcomes:

Table 2: Map aligning courses and the student learning outcomes.

Microsoft Excel Worksheet

3. Example Full-time Study Plan (30 credit hours)

First Year

First semester

Cpt S 484: *Software Requirements* 3
Cpt S 582: *Software Testing* 3
Cpt S 516: *Algorithmics* 3
*Software Engineering Option Course 3

Total credit hours: 12

Second semester
*Software Engineering Option Course 3
Cpt S 487: *Software Design and Architecture* 3
Cpt S 581: *Software Maintenance* 3
E M 564: *Project Management* 3

Total credit hours: 12

Second Year

First semester
Cpt S 583: *Software Quality* 3
E M 522: *Leadership, Supervision and Management* 3
**Capstone Experience 0

Total credit hours: 6

*Software Engineering Option Course can be any 5xx level course in ~~Software Engineering~~, ~~Computer Science, Computer Engineering, or Math~~ CPT_S or MATH. The courses that are not offered online through the proposed degree can be taken locally and transferred into the program upon approval by the Graduate Studies Committee. The courses listed in Section VI.4.a (p. 28) will be made available online as initial list of Software Engineering Option Courses.

**Students are required to satisfy the Capstone Requirement stated in Section V.C (p. 24).

4. Example Part-time Study Plan (30 credit hours)

First Year

First semester
Cpt S 484: *Software Requirements* 3
Cpt S 516: *Algorithmics* 3

Total credit hours: 6

Second semester
Cpt S 487: *Software Design and Architecture* 3
Cpt S 581: *Software Maintenance* 3

Total credit hours: 6

Second Year

First semester
Cpt S 582: *Software Testing* 3
*Software Engineering Option Course 3

Total credit hours: 6

Second semester
E M 564: *Project Management* 3
*Software Engineering Option Course 3

Total credit hours: 6

Third Year

First semester

Cpt S 583: *Software Quality* 3
E M 522: *Leadership, Supervision and Management* 3
**Capstone Experience 0

Total credit hours: 6

*Software Engineering Option Course can be any 5xx level course in ~~Software Engineerin~~g, Computer Science, Computer Engineering, or Math. The courses that are not offered online through the proposed degree can be taken locally and transferred into the program upon approval by the Graduate Studies Committee. The courses listed in Section VI.4.a (p. 28) will be made available online as initial list of Software Engineering Option Courses.

**Students are required to satisfy the Capstone Requirement stated in Section V.C (p. 24).

5. Information on Individual Courses

a. Existing Computer Science and Software Engineering courses (Cpt S):

Cpt S 516: *Algorithmics* 3
Professor/Coordinator: Zhe Dang. Required course for the MSSE program. Discrete structures, automata, formal languages, recursive functions, algorithms, and computability.

Cpt S 564: *Distributed Systems Concepts and Programming* 4
Professor/Coordinator: Dave Bakken. Elective course for the MSSE program. Concepts of distributed systems; naming, security, networking, replication, synchronization, quality of service; programming middleware. Credit not granted for both CPT S 464 and CPT S 564. Offered at 400 and 500 level. Cooperative: Open to UI degree-seeking students.

Cpt S 580: *Advanced Databases* 4
Professor/Coordinator: Yinghui Wu. Elective course for the MSSE program. Advanced study of non-relational data models, the internals of a database management system, and database frontiers.

b. Existing Engineering and Technology Management courses (E M):

E M 522: *Leadership, Supervision and Management* 3
Professor/Coordinator: John Pricco. Required course for the MSSE program. Prerequisite: None. Strategies of supervision with practical application techniques presented to create individual and organizational motivation. Credit not granted for both E M 422 and 522. Offered at 400 and 500 level.

E M 564: *Project Management* 3
Professor/Coordinator: Bill Gray. Required course for the MSSE program. Prerequisite: None. Technical tools, Critical Path Method (CPM), Program Evaluation Review Technique (PERT), cost/schedule control