Guide to Developing and Using Curriculum Maps (Adapted from University of Northern Colorado, Office of Assessment)

Steps to build a curriculum map

Example 1 provides a template for building a curriculum map. Refer to Example 1 as you read the steps to build a curriculum map.

1. Place learning outcomes in matrix. Collect existing learning outcomes or create new learning outcomes if none exist. Write each student learning outcome in a separate row in the table.
2. Place courses and experiences in matrix. Identify the key/core courses and experiences that all students in your program should take. Write each course and experience in a separate column at the top of the matrix. Often (but not always) student learning and assessment occurs in courses. There are non-courses experiences in a program curriculum in which students are also taught and assessed. For example, student learning and assessment may occur when a student presents a project at a conference, participates in an internship, or gives a music recital. If there are critical student experiences in which student learning and assessment occur, then these experiences can also be added to matrix. It is recommended to create an initial curriculum map that only includes key/core courses and experiences because these are the main places in which the teaching and assessment of student learning outcomes will occur. If elective courses or support courses (e.g., general education courses) are critical to the program then include these courses. If possible and available, collect the student learning outcomes for each course. The course-level learning outcomes can help determine when and to what extent the program-level learning outcomes are taught and assessed in individual courses.
3. Add key to indicate learning and assessment. For a basic curriculum map, place an "X" in a cell to indicate which courses support student learning outcomes. For a more insightful curriculum map, use a key to indicate the extent to which learning occurs in each class related to the learning outcomes and in which class the outcomes are assessed (Example 2a). Examples 2b-c provide examples of other common keys used in advanced curriculum maps.
4. Analyze and modify. Analyze the curriculum map using the guiding questions in the next section. If necessary, modify the curriculum, student learning outcomes, assessment plan, approaches to teaching and learning in the program, etc. based on the analysis of the curriculum map. See the next two sections for more information on analyzing a curriculum map.

Example 1. Template for creating a curriculum map.

Program-Level Student Learning Outcomes Upon graduation, students will be able to:	Program Courses / Milestones (exams, defenses, etc. that do not have a corresponding course number)									
Add learning outcome										
Add learning outcome										

Add learning outcome								
Add learning outcome								
Add learning outcome								

Example 2a. Curriculum map with advanced key showing extent to which learning occurs in courses and in which courses outcomes are assessed.

Program-Level Student Learning Outcomes Upon graduation, students will be able to:	Program Courses						
	Course 100	Course 201	Course 301	Course 310	Course 320	Course 330	Course 401 Senior Seminar
1. critique human behavior and social structure from a sociological perspective.	I	I	E	E	R	R	E/A
2. analyze social issues using sociological theoretical perspectives.	I	I	E	E			E/A
3. apply research techniques in a sociology-related project with real world implications.		I			I	R	E/A
4. communicate knowledge of sociology through written and oral work.	I	I	E		R	E	E/A
Key I = concept related to learning outcome introduced E = concept related to learning outcome emphasized R = concept related to learning outcome reinforced A = concept related to learning outcome assessed							

4 = Assessment occurs

Below are other examples of keys that could be used:

Example 2b.
I = Introduced
R = Reinforced and opportunity to practice
M = Mastery at the senior or exit level
A = Assessment evidence collected

Example 2c.
1 = Some emphasis
2 = Moderate emphasis
3 = Significant emphasis

Using a curriculum map to evaluate a curriculum
A curriculum map can be used to identify gaps between expected student learning outcomes and what is taught and assessed in a curriculum. A curriculum map can demonstrate if a course sequence effectively scaffolds and prepares students to achieve the learning outcomes.

Identification of gaps and issues in a curriculum map can lead to curricular changes to improve student learning opportunities. Below are questions that can guide analyses of and discussions related to curriculum maps:

1. Are all student learning outcomes taught and taught with the appropriate sequence in the curriculum?
2. Are all student learning outcomes assessed and assessed at the appropriate time?
3. Do all core courses support the development of at least one student learning outcome?
4. Are there any core courses that don't support the student learning outcomes?
5. Do the core courses sufficiently support the development of the student learning outcomes?
6. Is the sequence of how the learning outcomes are taught across the courses appropriate and the most effective at supporting students' development of the learning outcomes?
7. What changes to courses, learning outcomes, sequence students take classes, and so on could improve the alignment between student learning outcomes and the curriculum?

Example of analyzing a curriculum map
A program is summarized in the curriculum map in Example B. This table and the following discussion are modified from Allen (2004, p. 43).

Example 2. Example of curriculum map.

Program-Level Student Learning Outcomes Upon graduation, students will be able to:	Program Courses									Key
	100	120	200	204	300	329	400	480	490	
Learning outcome 1	I		E		R	R			RA	I = concept related to learning outcome introduced
Learning outcome 2		I								E = concept related to learning outcome emphasized
Learning outcome 3			E		E		R		RA	R = concept related to learning outcome reinforced
Learning outcome 4										A = concept related to learning outcome assessed
Learning outcome 5									RA	
Learning outcome 6	I	I	E	E		R			RA	

- Learning outcome 1: There is good alignment between learning outcome 1 and the courses. Learning outcome 1 is introduced early in the program, emphasized in intermediate courses, and reinforced and assessed in upper-level courses.
- Learning outcome 2: Learning outcome 2 is introduced, but not taught or assessed elsewhere in the curriculum. Students may not be developing advanced knowledge related to outcome 2. One possible reason for the pattern is that the outcome isn't important; therefore,

faculty members don't emphasis the outcome in classes. Alternatively, the outcome could be critical to the curriculum; however, it was not realized until the creation of the curriculum map that that outcome wasn't addressed in the courses.

- <u>Learning outcome 3:</u> Learning outcome 3 is not formally introduced in the curriculum. However, it is emphasized in intermediate course and reinforced and assessed in upper-level courses. Faculty members will need to determine why the outcome isn't introduced in core program courses. Sometimes programs expect that general education classes will introduce learning outcomes to students. If an outcome is expected to be introduced in a general education class then program faculty members will need to work with the general education class faculty members to ensure that the learning outcome is introduced in those courses.
- <u>Learning outcome 4:</u> The learning outcome was not included in the curriculum. Faculty members will want to determine if that outcome was an old outcome that is no longer relevant and can be eliminated. Alternative, there may have been an oversight and the curriculum may need to be modified to include teaching related to that outcome.
- <u>Learning outcome 5:</u> Learning outcome 5 hasn't been introduced and emphasized. It is reinforced and assessed in one advanced-level class. Faculty members teaching the advanced class may have assumed that the learning outcome was taught in previous courses; however, it has not been addressed earlier in the program. Students may not be sufficiently prepared for this learning outcome.
- <u>Learning outcome 6:</u> There is good alignment between learning outcome 6 and the courses. Learning outcome 6 is introduced early in the program, emphasized in intermediate courses, and reinforced and assessed in upper-level courses.