



UNIVERSITY OF
NORTHERN COLORADO

Center for the Enhancement of
Teaching & Learning

Quick Guide to Program Curriculum Mapping

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What is a Curriculum Map?

A curriculum map shows where within a curriculum student learning outcomes are taught and assessed. A curriculum map can be used to ensure that alignment exists between the expected learning outcomes and what is taught in a curriculum. A curriculum map can be used as a planning tool when a curriculum is initially developed to plan where within the proposed curriculum the learning outcomes will be taught and assessed. A curriculum map can also be developed for an existing curriculum to describe where within the curriculum the student learning outcomes are currently taught and assessed. When created for an existing curriculum, a curriculum map describes what is actually occurring in a curriculum. When created at the program-level, a curriculum map shows where program learning outcomes are taught and assessed in program courses and experiences.

Curriculum maps serve the following purposes:

1. Help ensure that all PLOs are adequately addressed by the curriculum.
2. Help identify potential structural concerns within the curriculum.
3. Help diagnose where and how to correct structural concerns
4. Help document what topics are addressed and where they are covered.

Steps to Build a Curriculum Map

1. Write program learning outcomes in a separate column in the map template (see Image A)
2. Place courses and experiences in the rows on the map template (see Image A).

In step 2 identify the key/core courses and experiences that all students in your program should take. Write each course and experience in a separate row in the table. Most student learning and assessment occurs in courses. There are non-course 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.

Image A: Map Template

		Program Learning Outcomes			
		1. Students will be able to evaluate personal assets for efficient distribution.	2. Students will be able to prepare a plan for efficient wealth creating and management.	3. Students will be able to evaluate the impact of governmental economics policies on consumers and financial services firms.	4. Students will be able to design portfolios of securities and asset classes aimed at achieving personal goals.
Required Courses	PFP 101				
	PFP 102				
	PFP 200				
	PFP 203				
	PFP 370				
	PFP 300				
	PFP 303				
	PFP 360				
	PFP 400				

3. Complete Mapping Stage 1. Place an "X" in a cell to indicate which courses support program learning outcomes (see Image B, p. 4).

Image B: Mapping Stage 1

		Program Learning Outcomes			
		1. Students will be able to evaluate personal assets for efficient distribution.	2. Students will be able to prepare a plan for efficient wealth creating and management.	3. Students will be able to evaluate the impact of governmental economics policies on consumers and financial services firms.	4. Students will be able to design portfolios of securities and asset classes aimed at achieving personal goals.
Required Courses	PFP 101	X		X	
	PFP 102		X		X
	PFP 200	X	X	X	X
	PFP 203	X		X	
	PFP 370		X		X
	PFP 300	X		X	
	PFP 303	X	X		X
	PFP 360			X	
	PFP 400		X		X

4. Complete Mapping Stage 2. Place an I, R, or A in a cell to indicate different developmental levels the student will experience through the curriculum. (See Image 3)

- Introduced (I) – The skills associated with the program outcome are presented in the course. You may find this will happen in the lower level courses in your program. There may be formative assessment.
- Reinforced (R) – The skills associated with the program outcome are being worked on at a level above the introductory stage and/or the skills are being developed at a deeper level. There may be formative assessment.
- Assessed (A) – Students should have developed a sufficient level of competency in the skills associated with the program outcome to have mastered them. This is where the assessment of the program learning outcome is done (or the artifact for analysis is collected).

Image 3: Mapping Stage 3

		Program Learning Outcomes			
		1. Students will be able to evaluate personal assets for efficient distribution.	2. Students will be able to prepare a plan for efficient wealth creating and management.	3. Students will be able to evaluate the impact of governmental economics policies on consumers and financial services firms.	4. Students will be able to design portfolios of securities and asset classes aimed at achieving personal goals.
Required Courses	PFP 101	I		I	
	PFP 102		I		I
	PFP 200	I	I	I	I
	PFP 203	R		R	
	PFP 370		R		R
	PFP 300	R		R	
	PFP 303	A	R		R
	PFP 360			A	
	PFP 400		A		A

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 program learning outcomes taught and taught with the appropriate sequence in the curriculum?
2. Are all program learning outcomes assessed and assessed at the appropriate time?
3. Do all core courses support the development of at least one program learning outcome?
4. Are there any core courses that don't support the program learning outcomes?
5. Do the core courses sufficiently support the development of the program 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?

It is a best practice to engage all faculty members in analyses and discussion of a program-level curriculum map. A curriculum map can serve as a catalyst for building a reflective practice related to teaching and learning in a program.

Example of analyzing a curriculum map

A program is summarized in the curriculum map in Image 4. Following the map is an analysis of the curriculum (this is modified from Allen (2004, p. 43)).

Image 4. Example of curriculum map.

		Program Learning Outcomes					
		PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
Required Courses	100	I					I
	120		I				I
	200	R		R			R
	204						R
	300	R		R			
	329	R					R
	400			R			
	480						
	490	RA		RA		RA	RA

PLO 1

There is good alignment between PLO 1 and the courses. PLO 1 is introduced early in the program, reinforced in intermediate courses, and reinforced and assessed in upper-level courses.

PLO 2

PLO 2 is introduced, but not taught or assessed elsewhere in the curriculum. Students may not be developing advanced knowledge related to PLO 2 and the program is unable to determine the extent to which students have achieved that outcome. One reason for the pattern is that the outcome isn't important; therefore, faculty members don't emphasize 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. Depending on the reason for the pattern in the curriculum map, the learning outcome could be eliminated or modified, or the faculty members could modify the focus of teaching in the courses to ensure that that outcome is taught.

PLO 3

PLO 3 is not formally introduced in the curriculum. However, it is reinforced in intermediate courses 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. For example, a program may expect that an introduction to written communication will occur in a general education class. 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.

PLO 4

The PLO 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.

PLO 5

PLO 5 hasn't been introduced in introductory, intermediate, and most advanced classes. 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. Commonly, research method skills are reinforced and assessed at advanced levels and may not be introduced and reinforced earlier in a program.

PLO 6

There is good alignment between PLO 6 and the courses. The outcome is introduced early in the program, reinforced in intermediate courses, and reinforced and assessed in upper-level courses.

Mapping Challenges

Here are some typical challenges you might encounter when guiding program faculty through the mapping process.

1. What courses to include?
 - Generally, it's best to start out simple and only include the required courses in your program. Once these are set, you can branch first into the support courses, then into the program elective courses, and finally into LAC-type courses. In this expanded case, be aware that not all students take the same electives and the same set of LAC courses, so you cannot assume the same level of SLO coverage as you can with required courses.
2. Single course with multiple instructors
 - This requires coordination among instructors who teach the course. It also requires some standardization as to what is covered and what assessments are used, especially if the course is used for program assessment data collection. Bring all instructors together for a conversation about which PLOs the course supports and how best to assess learning. Emphasize that the course is part of the program curriculum, so faculty need to come to consensus.
3. Does the curriculum drive assessment or the reverse?
 - The curriculum should drive the assessment; however, the PLO's should shape the curriculum. The overriding objectives need to be considered first. This concept will be foreign to some programs that have allowed the curriculum to be shaped by short-lived trends and the interests of individual professors. A good curriculum should be planned and designed; not merely something that randomly evolves over time. When analyzing your curriculum with a map, be sure to keep the PLOs, not the courses, central to the conversation.
4. What if another group controls the course?
 - This is typically the case with support courses and LAC. It is best to begin with required courses that the program controls. Once that assessment is in place, the program can conduct an audit of courses taught outside the program to determine if the courses map to the PLOs. If courses outside the program map to the PLOs, have a conversation with your colleagues about how the PLO might be introduced, reinforced, and assessed formally.

Resources Used to Create Curriculum Map Quick Guide

Allen, M. (2004). *Assessing academic programs in higher education*. San Francisco, CA: Anker Publishing.

Maki, P. L. (2010). *Assessing for learning: Building a sustainable commitment across the institution*. 2nd edition, Sterling, VA: Stylus Publishing, LLC.

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University of Hawaii Manoa. (2013). *Assessment how-to: Curriculum Mapping / curriculum matrix* Retrieved January 30, 2015 from <http://manoa.hawaii.edu/assessment/howto/mapping.htm>.

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