

CURRICULUM MAPPING: A QUICK GUIDE FOR PROGRAMS

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Introduction

A curriculum map provides a visual representation of the relationship between a program's student learning outcomes (SLOs) and the courses taken by its students. A map can help improve the coherence of the curriculum and help students achieve the program's learning outcomes.

This quick guide provides an overview of what curriculum maps do, how they can be used to support program assessment and teaching, and what steps are involved in creating a map. The Office of Assessment of Teaching and Learning is available to help programs develop, refine, and use curriculum maps.

What a Curriculum Map Can Tell You about Your Curriculum

Curriculum maps can be constructed in different ways, depending on what your program wants to know. Below are examples of three variations, with descriptions of what each type of map can tell you about your curriculum.

Basic Curriculum Map

A basic curriculum map can be used to:

- Identify which core courses support which program SLOs.
- Reveal any gaps—see Figures 1 and 2. A course is not necessarily required to address all program SLOs and a course can address outcomes other than the program SLOs. However, significant gaps in the alignment of core courses with the program's learning outcomes should be discussed by faculty.

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Figure 1: Program SLO not addressed in any course

	Course 1	Course 2	Course 3	Course 4	Course 5
SLO #1	X				X
SLO #2	X	X		X	X
SLO #3					
SLO #4	X		X	X	X

SLO = Program Student Learning Outcome (SLOs are the core skills and knowledge that faculty have agreed students should develop through the program of study)

Figure 2: A course that does not address any SLO

	Course 1	Course 2	Course 3	Course 4	Course 5
SLO #1	X		X		X
SLO #2	X	X			X
SLO #3		X	X		
SLO #4	X		X		X

Compared to a basic curriculum map, which indicates simply whether a course includes an outcome, a SLO development map and SLO emphasis map provide more information about the manner and extent to which SLOs are addressed in each course.

SLO Development Map

A curriculum map focused on skill development (Figure 3) can:

- Help determine how the curriculum systematically builds skills and knowledge. How do core courses fit together? Do lower-level courses help prepare students for upper-level courses?
- Show any gaps in the progression of learning opportunities. Are all SLOs being introduced, and then are students given enough opportunity to develop and master them over time? In Figure 3, for SLO #1, it appears as if students are not being given adequate opportunity to practice using skills and knowledge before “Mastery” level learning is expected. This gap could hinder student readiness to undertake a senior project in a capstone course.
- Identify courses/assignments where assessment measures of the program SLOs could be applied. In Figure 3, the senior project in Course 5 is an assignment in which students must apply and integrate all the program’s SLOs, so all the SLOs can be assessed using this project. Low performance of students on SLO #3 in this senior assessment prompted the program to add an assessment measure of SLO #3 in Course 2, a lower-level course, to help faculty determine if adjustments should be made to the curriculum.

Curriculum maps can improve the coherence of the curriculum

Figure 3: Curriculum map focused on skill development: Gap in opportunities for students to develop in the SLO

	Course 1	Course 2	Course 3	Course 4	Course 5
SLO #1	I				M/A
SLO #2	I	D	D	D	M/A
SLO #3	I	D/A		D	M/A
SLO #4	I		D	D	M/A

I = Introduced

D = Developing (opportunity to practice, with feedback)

M = Mastery level expected of a senior

A = Program Assessment

SLO Emphasis Map

A curriculum map focused on emphasis of SLOs (Figure 4) can help a program determine the extent to which each SLO is addressed in each course. All SLOs do not necessarily need to be equally emphasized, but any differences, as pictured in Figure 4, should be recognized and discussed by faculty. In this case, faculty could discuss the following questions:

- Is this SLO important to the program?
- Is this an outcome that is more challenging to teach?
- Can this SLO be addressed effectively in fewer courses than other SLOs require?

Figure 4: Curriculum map focused on emphasis of SLOs: One SLO does not receive as much emphasis

	Course 1	Course 2	Course 3	Course 4	Course 5
SLO #1	Black	Black	Black	Black	Black
SLO #2	Black	Black	Light Gray	Black	Black
SLO #3	Black	White	Black	Black	Black
SLO #4	White	Black	White	Black	Black

Black/Primary-The vast majority of the content addresses this SLO

Medium Gray/Secondary-Addressed by a significant portion of the course

Light Gray/Tertiary-Addressed infrequently or to a minor extent

White/Nonexistent-This SLO is not addressed in this course

How Programs Can Use Curriculum Maps

A curriculum map can give faculty, students, and advisors a shared understanding of what the curriculum seeks to accomplish. Maps should be shared regularly with all teaching faculty, discussed periodically, and revised as needed. They can be provided to new faculty as part of orientation to the department and can be shared with others, such as advisors, TAs, and students. Used in this way, a curriculum map can:

- a. Help each faculty member understand how his/her course is situated in the curriculum, and the essential contributions that course makes toward student learning outcomes for the degree**
 - Help faculty make decisions during the semester if something must be changed/dropped/added.
 - Enable faculty to better build on skills and knowledge from previous courses in the curriculum.
 - Help ensure course syllabi, key assignments, and learning activities are aligned with course and/or program SLOs.
 - Clarify the relationship key assignments have between courses.
 - Align course offerings and integrate courses taught by multiple instructors.
- b. Inform decisions about course offerings, sequencing, scheduling**
 - Verify that course sequencing and scheduling are appropriate.
 - Guide changes in scheduling rotations, course offerings, etc.
- c. Help students see the bigger picture of how their courses fit together, and help focus and motivate their learning**
- d. Reveal strengths and weaknesses in the curriculum**
 - Show strengths to preserve or build on.
 - Guide areas for improvement, such as gaps in the curriculum or unintended overlaps.
 - Guide decisions about assignments, activities, textbooks, technology, and training.
- e. Inform assessment of learning outcomes**
 - Identify courses or assignments where an assessment measure could be used.
 - Help diagnose reasons behind assessment results. If assessment results show that students are not performing well in an outcome, a curriculum map could help faculty determine if the learning opportunities in the curriculum are one possible contributing factor: Is enough emphasis being given to the skills and knowledge for that outcome? Are students given a chance to practice applying and integrating skills and knowledge in different contexts?

Creating and Refining a Curriculum Map: General Steps

Perhaps the most useful part of curriculum mapping as an activity is the faculty discussion that occurs as part of the process of creating the map, refining it, and using it as a reference point for ongoing assessment and engagement in teaching and learning. Faculty can build and refine a map using the following general steps. The Office of Assessment of Teaching and Learning is available to facilitate this process for you and/or consult on this process.

Step 1: In order to fill out a curriculum map grid, faculty need to identify how their course SLOs relate to the program SLOs and, potentially, what sort of emphasis and skill level their course addresses, depending on the type of map the program wants to create (see pages 1-2 for samples of types of maps). Also valuable is identifying key assignments, or other learning opportunities that address the course outcomes. This will help faculty determine what marks they want to place in the curriculum map grid. See Figure 5 for a sample of a worksheet that can guide this process. After faculty individually fill out the worksheets, it's useful to have the group discuss how they chose levels of emphasis and skill and note any differences in their understanding. As faculty go further into the process (see Step 3), their choices can be revised.

Figure 5: Worksheet aligning course and program outcomes

Course Number/Title:		Faculty Name(s):		
Key assignments or activities that address the course SLOs:	Course SLOs (student learning outcomes for this course):	Which Program SLO'S do the course SLO's contribute to?	What level of emphasis? (Primary, Secondary, Tertiary, or Nonexistent)	What level of skill? (Introduced, Reinforced, or Mastered)

Step 2: After mapping their courses to the program outcomes, faculty can fill out the curriculum map grid (see pages 1-2 for samples). Sticky notes and an oversized grid on a whiteboard or flip-chart paper will work for this. It's important to take time for the group to "read" the resulting map and discuss what they see; for example, are there any gaps?

Step 3: As a next step in subsequent meetings, faculty can discuss in groups how the key assignments they identified do—or could—work together in core courses to help students develop skills and knowledge over time. A worksheet that includes prompts about how key assignments fit together across the curriculum can help guide this conversation (See Figure 6). This is an opportunity for faculty to discuss their approaches to teaching and their observations about student abilities, preparedness, and progress through the curriculum. These conversations might lead the group back to the curriculum map grid to make adjustments as they compare notes about how they interpret the different levels of skill development.

Step 4: Determine next steps. Does the map reveal obvious places for program assessment? Did faculty discussion turn up potential adjustments to courses or curriculum? With whom and how will the map be shared? See page 3: How Programs Can Use Curriculum Maps.

Figure 6: Learning opportunities and skill development worksheet

Program Student Learning Outcome (SLO) (Pick one Program SLO to address for each worksheet)	Key Assignments and Activities		
	Introduced	Developing	Mastery
	Course: Assignment/activity: How does this assignment/activity help students learn the SLO? How is this an <u>Introductory</u> -level learning opportunity for this SLO?	Course: Assignment/activity: How does this assignment/activity help students learn the SLO? How is this a <u>Developing</u> -level learning opportunity for this SLO?	Course: Assignment/activity: How does this assignment/activity help students learn the SLO? How is this a <u>Mastery</u> -level learning opportunity for this SLO?