

# Quick Guide to Curriculum Maps

This quick guide was prepared by the WSU Office of Assessment for Curricular Effectiveness (ACE) and is intended to help WSU programs and faculty consider good practices for developing and updating curriculum maps for their undergraduate degree programs. ACE is also available to collaborate with WSU undergraduate degree programs to develop or update their curriculum map. Contact us at [ace.office@wsu.edu](mailto:ace.office@wsu.edu) for more information.

## Introduction

The process of developing and regularly updating a curriculum map invites faculty to reflect on learning opportunities and expectations for students in the major. At WSU, undergraduate degree programs are responsible for developing and regularly updating curriculum maps for their degree program or majors. This resource introduces curriculum maps, describes common types of curriculum maps, offers concrete steps for developing or updating curriculum maps, and suggests follow up steps for sharing and using the curriculum maps.

## What Are Curriculum Maps?

A curriculum map is a matrix aligning program-level student learning outcomes (SLOs), i.e., the core skills and knowledge that students are expected to achieve, with the courses for a degree program or major.

It is worth noting that *curriculum maps* are sometimes confused with the *four-year schedules of studies* published in the [WSU Catalog](#). While a *schedule of studies* lists all courses needed for a degree program shown in a semester-by-semester view, it does not show the relationship between program-level SLOs and courses. For more information about the *schedules of studies*, WSU's requirements for undergraduate degrees, and the curricular change process, see the [WSU Curriculum Change website](#).

## Why Are Curriculum Maps Valuable?

Curriculum maps make visible the relationship between courses and program-level SLOs, enabling faculty to design and implement intentional curricula which systematically develop and deepen students' skills and knowledge. A curriculum map can give program leadership, faculty, students, and advisors a shared understanding of what the curriculum seeks to accomplish. In this context, a curriculum map can:

- Help each faculty member understand how their course is situated in the curriculum, and the essential contributions their course makes toward advancing program-level SLOs
  - Guide decisions about assignments, activities, textbooks, technology, and training
  - Help faculty make decisions during the semester if something is changed/dropped/added
- Provide a catalyst for faculty discussions about aligning and scaffolding courses, teaching, and assignments to effectively support student learning
  - Clarify the relationships between courses and enable faculty to better build on skills and knowledge from previous courses in the curriculum
  - Align course offerings taught by multiple instructors
  - Support equitable opportunities for students to learn, develop, and demonstrate their achievement

- Reveal where the curriculum is stronger or weaker in terms of advancing program-level SLOs
  - Show strengths to preserve or build on
  - Guide areas for improvement, such as gaps in the curriculum or unintended overlaps
- Inform decisions about course offerings, sequencing, scheduling
  - Verify that course sequencing and scheduling are appropriate
  - Guide changes in scheduling rotations, course offerings, etc.
- Help students see the bigger picture of how their courses fit together, and help focus and motivate their learning
- Help programs plan assessment of program-level SLOs
  - Identify courses or assignments where an assessment measure could be collected
- Provide context for interpreting program assessment results
  - If assessment results show that students are not performing well on a program SLO, a curriculum map could help faculty determine if the learning opportunities in the curriculum are a possible contributing factor (i.e., Is enough emphasis being given to the skills and knowledge for that program SLO? Are students given a chance to practice applying and integrating skills and knowledge in different contexts?)

## Types of Curriculum Maps

Program curriculum maps may vary in complexity and structure, to best meet the needs of the program. Following are three variations, with descriptions of what each type can tell you about your curriculum.

### Basic Curriculum Map

With a basic curriculum map (Figures 1 and 2), a mark (e.g., an "X") indicates where a course addresses a program SLO. A basic curriculum map can be used to:

- **Identify which courses support which program SLOs.** How do courses fit together?
- **Reveal gaps** – such as program SLOs that are not addressed in courses or courses that do not address program SLOs. In Figure 1, *program SLO #3* is not addressed in any course. In Figure 2, *Course 440* does not address any program SLO.

	CRS 101	CRS 201	CRS 330	CRS 440	CRS 480
Program SLO #1	X				X
Program SLO #2	X	X		X	X
Program SLO #3					
Program SLO #4	X		X	X	X

Figure 1: A basic curriculum map where a program SLO is not addressed in any course

	CRS 101	CRS 201	CRS 330	CRS 440	CRS 480
Program SLO #1	X		X		X
Program SLO #2	X	X			X
Program SLO #3		X	X		
Program SLO #4	X		X		X

Figure 2: A basic curriculum map where a course does not address any program SLOs

## Program SLO Development Map

A curriculum map focused on program SLO development (Figure 3) indicates the progression of SLO development across courses, using language such as *Introduce* (I), *Practice* (P), *Refine* (R), and *Competent* (C); see the [appendix](#) for more information about these levels of program SLO development. These maps may also indicate where assessment measures are collected for each program SLO (such as using an “A” to indicate *Assessed*). In this way, a program SLO development map can be used to:

- **Identify which courses support which program SLOs and help illustrate how the curriculum systematically builds skills and knowledge.** How do courses fit together? Do lower-level courses help prepare students for upper-level courses?
- **Reveal gaps, including gaps in the progression of learning opportunities.** Are all program SLOs being introduced? Are students given enough opportunity to develop and achieve program SLOs over time? In Figure 3, it appears as if students are not being given adequate opportunity to practice using skills and knowledge before “Competent” level learning is expected for *program SLO #1*.
- **Indicate where assessment measures for program SLOs are collected.** In Figure 3, the senior project in *Course 480* is an assignment in which students must apply and integrate all of the program’s SLOs, and this program assesses all program SLOs using this project.

	CRS 101	CRS 201	CRS 330	CRS 440	CRS 480
Program SLO #1	I				C/A
Program SLO #2	I	P	R/A	R	C/A
Program SLO #3	I	P		R	C/A
Program SLO #4	I		P		C/A

Figure 3: A program SLO development map where there is a gap in opportunities for students to develop a program SLO; Key = Introduce (I), Practice (P), Refine (R), Competent (C), and Assessed for program-level assessment (A)

## Program SLO Emphasis Map

A curriculum map focused on emphasis of program SLOs (Figure 4) indicates the extent to which each program SLO is addressed in each course, using colors or other labeling (no emphasis, some emphasis, moderate emphasis, substantial emphasis). In this way, a program SLO emphasis map can be used to:

- **Identify which courses support which program SLOs and to what extent.** How do courses fit together?
- **Reveal gaps, including gaps in the extent to which program SLOs are addressed.** All program SLOs do not necessarily need to be equally emphasized, but any differences, such as *program SLO #4* in Figure 4, should be recognized and discussed by faculty (e.g., Is this program SLO more challenging to teach? Can this program SLO be addressed effectively in fewer courses than other program SLOs require?)

	CRS 101	CRS 201	CRS 330	CRS 440	CRS 480
Program SLO #1	Black	Black	Black	Black	Black
Program SLO #2	Black	Medium Gray	Light Gray	Black	Medium Gray
Program SLO #3	Black	White	Black	Medium Gray	Medium Gray
Program SLO #4	White	Light Gray	White	Light Gray	Light Gray

Figure 4: A program SLO emphasis map where one SLO receives less emphasis; Key = Vast majority of content addresses this SLO (Black/Primary), Significant portion of course addresses this SLO (Medium Gray/Secondary), Addressed to a minor extent (Light Gray/Tertiary), and SLO is not addressed in course (White/Nonexistent)

## How to Develop or Update a Curriculum Map

### Step 1: Arrange program-level SLOs and courses into a table

Create a table with one column for each program-level SLO and one row for each course in the program or vice versa (i.e., one column for each course and one row for each program SLO). Listing the courses vertically in rows can be helpful for programs with extensive course requirements/offerings, while listing the courses horizontally across the top of the table can help programs visualize the intended progression through the curriculum.

- At minimum, the map should include all program SLOs and all required courses for the degree program/major.
  - Required courses for the degree program/major may include general education (UCORE) courses (for example, where a degree program requires the completion of a specific UCORE Capstone [CAPS] course that also serves as a culminating course in the major).
- It may be helpful to group “pick-from-a-list” course requirements (i.e., a requirement that can be fulfilled by completing by one course from a list of multiple courses, such as “CRS 401 or CRS 402”) together on the map.
- Depending on the context, some maps may include “major electives” (i.e., additional credit hours required to be taken in the major field of study that can be satisfied by many different courses). If you choose to include them, it may be helpful to indicate these “major electives” in a different format or color, since they may not systematically advance program-level SLOs for all students.
- “General electives” (i.e., additional credit hour requirements that can be satisfied by any number of different courses inside or outside the major field of study) are not generally included on curriculum maps as they do not systematically advance program-level SLOs.
- Degree programs that offer multiple majors/options may wish to create a separate map for each major/option, if course requirements are quite different amongst majors/options. In instances where the different majors/options share a set of common “core” course requirements, the program may wish to create a single map that indicates the core courses alongside any additional requirements for the different majors/options, as in Figure 5.

	Core Course Requirements				Option A Requirements			Option B Requirements		
	CRS 101	CRS 201	CRS 330	CRS 440	CRS 333	CRS 433	CRS 434	CRS 320	CRS 420	CRS 421
Program SLO #1	I		R	C	P			P		
Program SLO #2	I					R	C		R	C
Program SLO #3	I	P	R	C						
Program SLO #4	I	P	R			R	C		C	C

*Figure 5: A curriculum map where two different options of a major share a set of common “core” course requirements in addition to the option-specific requirements*

- Degree programs that are offered on multiple campuses may wish to indicate which courses are available on a given campus (where course offerings differ by campus).

## Step 1: Arrange program-level SLOs and courses into a table, continued

Additionally, programs may wish to include additional details on their maps indicating:

- **The relationship between course-level SLOs and program-level SLOs**, providing a visualization for how the various pieces fit together related to learning outcomes, and a way of seeing the layers of educational design (see Figure 6).

	Course-level SLO	Program SLO #1	Program SLO #2	Program SLO #3	Program SLO #4
CRS 101	Identify relationships between form and content in 2-D art.				X
	Use basic art terms to describe works of art.		X		
CRS 201	Formulate a thesis statement about works of art from prehistory to the 17 <sup>th</sup> century.	X			
	Explain relationships between context and the meaning of works of art from prehistory to the 17 <sup>th</sup> century.			X	
CRS 330	Write a well-crafted art-historical text for a specific audience.	X			
CRS 440	Formally analyze works of art using appropriate terminology.		X		
	Interpret works of art within historical and cultural contexts.			X	
	Interpret works of art using a core concept or theory.				X

Figure 6: A curriculum map that indicates the relationship between course-level SLOs and program-level SLOs; Adapted from Eastern Washington University's Office of Assessment and Accreditation

- **How key course assignments/activities address the program-level SLOs**, allowing for the examination of issues of alignment as well as gaps (see Figure 7). For example,
  - Do we provide a variety of assignments or activities for students to develop and demonstrate their learning? Do key assignments reflect products valued by our discipline or field?
  - Do the means in which we ask students to demonstrate their learning match the program SLOs?

	Key Assignment	Program SLO #1	Program SLO #2	Program SLO #3	Program SLO #4
CRS 101	Term Paper	X			X
	Lab Report		X	X	X
CRS 201	Reflective Essay	X	X		
	Case Study			X	X
CRS 330	Oral Presentation	X	X		
CRS 440	Capstone Project		X	X	X

Figure 7: A curriculum map that indicates the relationship between key course assignments and program-level SLOs

## **Step 2: Identify how specific courses advance program SLOs**

While a basic curriculum map simply shows which courses support which program-level SLOs, most curriculum maps indicate an approximate level or emphasis which a given course targets for a given program-level SLO (see pages 2-3 for types of maps).

### ***Three Approaches to the Process:***

- 1. Individual Faculty: Program faculty work individually to provide information about each of their own courses,** using an Excel spreadsheet or on online interface (such as Qualtrics), after reviewing their syllabus and key assignments/learning activities. This approach requires someone to plan, set up, and oversee the collection process and compile the responses to draft (or update) the map.
  - **Strength:** This approach can be fairly quick to collect if faculty are willing to participate.
  - **Challenge:** Results may be inconsistent or superficial, as without training and discussion faculty may lack a shared understanding of how to review and align their own courses and assignments.
- 2. Faculty Committee or Working Group: A faculty curriculum committee or other working group reviews course materials to draft (or update) the map.** After collecting course syllabi and/or key assignment prompts, the committee members review courses to make determinations about the alignment of courses and program-level SLOs. Committee members may reach out to relevant faculty for clarifications where needed.
  - **Strength:** The faculty committee can discuss several courses together to reach a shared understanding of how to review syllabi and assignment prompts, producing a more consistent map. This approach can also raise topics for the committee to consider, such as the concept of scaffolded learning and the relationships among courses.
  - **Challenge:** In some cases, it can be difficult to accurately interpret another instructor's syllabus. Additionally, effort is needed to collect the course materials.
- 3. Whole Faculty: Program faculty as a whole come together to identify and discuss the alignment between courses and program-level SLOs to collaboratively draft (or update) the map.** At curriculum mapping workshop for program faculty, ACE or other facilitators can lead faculty through the process of determining the alignment of their courses with the program level SLOs and collectively discuss where learning occurs to explore the alignment between educational experiences, activities, and assessments.
  - **Strength:** This approach can provide space for productive discussions about teaching and scaffolded learning in the major, and produce a high quality, accurate curriculum map. This approach also provides faculty professional development, where faculty can arrive at a deeper and shared understanding of program-level SLOs and the curriculum, including how their own courses are situated in the curriculum.
  - **Challenge:** This approach requires a substantial investment of time by faculty and by the facilitators.

## **Step 3: Review and refine map**

Perhaps the most useful part of curriculum mapping is the faculty discussion that occurs as part of the process. It's important that program faculty take time to "read" the resulting map and discuss what they see. This is an opportunity for faculty to discuss their approaches to teaching and their observations about student abilities, preparedness, and progress through the curriculum. Faculty could also discuss how key assignments work together (or could work together) in courses to help students develop skills and knowledge across the curriculum. These conversations might lead the group back to the curriculum map to make adjustments as they compare notes about how they interpret different levels of skill development.

### **Step 3: Review and refine map, continued**

Questions to consider when reviewing and refining curricula and curriculum maps:

- Is every program SLO addressed in the curriculum? Is every program SLO addressed in multiple courses?
- Do some program SLOs get more coverage than others? Is that intentional?
- Are program SLOs first introduced and then reinforced? Do students get practice on each program SLO before being assessed for competency?
- When is competency expected and how do prior course learning experiences help ensure success? Are students expected to show high levels of learning too early?
- Does each required course address at least one program-level SLO? Do multiple sections of the same course address the same program SLOs, at the same levels?
- Are all students, regardless of which courses they choose, likely to experience a coherent progression and coverage of all program SLOs?
- What do our major electives, individually and collectively, contribute to achievement of program SLOs?
- How do assignments elicit demonstrations of particular program SLOs?
- Does the curriculum have an integrative, synthesizing capstone or culminating experience near the end?
- Are there other tools/data that can help us understand our curriculum? (e.g., course enrollment patterns, syllabi review, etc.)

### **Step 4: Consensus**

While curriculum mapping/review is not a one and done process, effective curriculum maps are widely accepted and supported by program faculty members. Some programs may choose to have faculty formally approve their map (e.g., via a vote), while other programs may choose more informal acknowledgements of approval (e.g., general consensus during a faculty meeting). Regardless of the process a program chooses, it is important to note that developing and maintaining an appropriate and useful curriculum map is often an iterative process; it's not unusual to refine a curriculum map prior to reaching consensus.

## **Follow Up Steps: Sharing and Using the Curriculum Map**

### ***Curriculum Review and Revision:***

- **Develop an internal process for regularly sharing the curriculum map with faculty and instructors**, for example at an annual departmental meeting. Maps can also be provided to new faculty as part of orientation to the department and shared with others, such as advisors, TAs, and students.
- **Use the curriculum map to guide faculty discussions and decisions about aligning and scaffolding courses, teaching, and assignments** to effectively support student learning. In addition, issues of access, equity, and participation can be examined to ensure realistic learning pathways for students are designed and supported.
- **Revisit and update the curriculum map on a reoccurring basis, as appropriate to the program.** Curricula are not static and may change as faculty, student, employer, and societal needs change. A general rule of thumb is for faculty to review the map at least every three years and update as needed.

### ***Planning and Interpreting Assessment:***

- **Use the curriculum map to plan program SLO assessment efforts.**
- **Use the curriculum map to provide context for interpreting program assessment results.** How much practice do students get on each program SLO before being assessed?

## Additional Resources and Scholarship

- Diamond, R. (2008). *Designing and Assessing Courses and Curricula: A Practical Guide*. San Francisco, CA: Jossey-Bass. (Note: Please contact ACE to borrow this book)
- Hutchings, P. (2016). [\*Aligning Educational Outcomes and Practices \(Occasional Paper #26\)\*](#). Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment (NILOA).
- Matveev, A., et al. (2010). [\*Curriculum Mapping: A Conceptual Framework and Practical Illustration\*](#). AMCIS 2010 Proceedings.
- National Institute for Learning Outcomes Assessment. (2018). [\*Mapping Learning: A Toolkit of Resources\*](#). Urbana, IL: University of Illinois at Urbana-Champaign, National Institute for Learning Outcomes Assessment (NILOA).
- Rawle, F., et al. (2017). [\*Curriculum Mapping Across the Disciplines: Differences, Approaches, and Strategies\*](#). Collected Essays on Learning and Teaching. 10.
- Suskie, L. Blog posts queried for 'Curriculum Maps', A Common Sense Approach to Assessment in Higher Education Blog. Available at: <https://lindasuskie.blogspot.com/>
- Suskie, L. (2018). Chapter 5: Designing curricula to help students learn what's important. In *Assessing Student Learning: A Common Sense Guide*. San Francisco, CA: Jossey-Bass. (Note: Please contact ACE to borrow this book)

## Appendix: Scaffolded Program SLO Development for Curricular Coherence

Scaffolded program SLO development refers to courses, instruction, and assignments/activities that intentionally and systematically build on each other throughout the curriculum, reinforcing prior learning and deepening the complexity of the tasks and contexts, providing students opportunities to develop competency, with practice and feedback over time.

Introduce (I)	Practice (P)	Refine (R)	Competent (C)
<p><b>Courses <u>introduce</u> skills and knowledge, providing opportunities to acquire introductory skills and knowledge.</b></p>	<p><b>Courses provide opportunities to <u>practice</u> components to solidify foundational skills and knowledge.</b></p>	<p><b>Courses provide opportunities to <u>refine</u> skills and deepen knowledge in more complex contexts.</b></p>	<p><b>Courses provide opportunities to demonstrate <u>competency</u> in the attainment of skills and knowledge.</b></p>
<ul style="list-style-type: none"> <li>• Students are not expected to be familiar with the program SLO-related content knowledge or skills at the collegiate level.</li> <li>• Instruction and learning activities focus on basic knowledge and skills with entry level complexity.</li> <li>• Only one or a few aspects of complex program SLOs are addressed.</li> </ul>	<ul style="list-style-type: none"> <li>• Students are expected to possess a basic familiarity with program SLO-related content knowledge and skills at the beginning collegiate level.</li> <li>• Instruction and learning activities concentrate on practicing and strengthening knowledge and skills, building comfort in varied contexts, including low stakes practice with feedback.</li> <li>• Several aspects of program SLOs are addressed, but these aspects may be treated separately.</li> </ul>	<ul style="list-style-type: none"> <li>• Students are expected to possess a solid foundation of program SLO-related content knowledge and skills at a more rigorous level.</li> <li>• Instruction and learning activities concentrate on refining and deepening knowledge and skills, and expanding complexity, including practice with feedback.</li> <li>• Several aspects of program SLOs are applied and integrated.</li> </ul>	<ul style="list-style-type: none"> <li>• Students are expected to demonstrate an advanced level of program SLO-related content knowledge and skills, appropriate for students near the end of the curriculum, knowing when and where to apply content knowledge and skills.</li> <li>• Instruction and learning activities focus on integrating knowledge and skills in multiple contexts at a complex level.</li> <li>• Program SLOs are addressed in all of their complexity across multiple contexts, purposes, and audiences.</li> </ul>

Adapted from [Curriculum Mapping: A Roadmap for Curriculum Coherence and Student Achievement](#) (Cuevas and Feit, 2011) and *How Learning Works* (Ambrose et al, 2010)