

## Guidelines for Curriculum Maps

Curriculum maps can be useful in developing and recognizing student learning outcomes and providing assessment tools for course, program and institutional level assessment. A curriculum map can identify courses in which departments might collect assessment data for specific learning outcomes. These maps also provide an overview of the structure of the curriculum and the contribution of individual courses to the goals of the program. Curriculum maps can identify program strengths - student learning outcomes that are thoroughly addressed. Curriculum maps can also help departments identify gaps (learning outcomes that are addressed by only a few courses) and may illustrate whether students are taking courses in an optimal sequence. Finally, curriculum maps can serve as useful advising tools that provide students with an overview of the role of each course in the curriculum and why some courses should be taken in a particular order.

Curriculum maps can be created using various sources of information. The following examples describe curriculum maps based on three different types of information: evidence the course addresses a program-level learning outcome, presence of assignments that evaluate a learning outcome, and level of skill expected of students on a given learning outcome. Departmental curriculum maps should be documents that can be understood without extensive reference to other documents. Identify the names and course numbers of each course included in the map and clearly communicate each of the learning outcomes for the degree program.

**Simple Yes/No Matrix Format** - The simplest curriculum map is a simple matrix of courses and learning outcomes in which departments provide a check in the matrix cells for those courses that address a specific student learning outcome. The decision to identify a course that addresses a specific learning outcome might be based on instructor feedback or an analysis of learning outcomes listed on the course syllabus.

**Assignments and Embedded Assessments Format** - This curriculum map enters descriptive information about the type of embedded assessment included in courses for each learning outcome (exam questions, assignment graded with a rubric, student project, student presentations, etc.). This type of curriculum map is useful to departments that would like to identify specific courses in the curriculum that generate direct measures of student performance that could be harvested for a meaningful assessment of a student learning outcome.

**Level of Skill Format** - This curriculum map describes the level of skill students are expected to achieve on a given student learning outcome in each course. This type of curriculum map helps departments determine whether courses within the curriculum are sequenced in appropriate ways and to determine whether students are experiencing adequate opportunities for acquisition and practice with disciplinary skills before they are expected to demonstrate mastery.

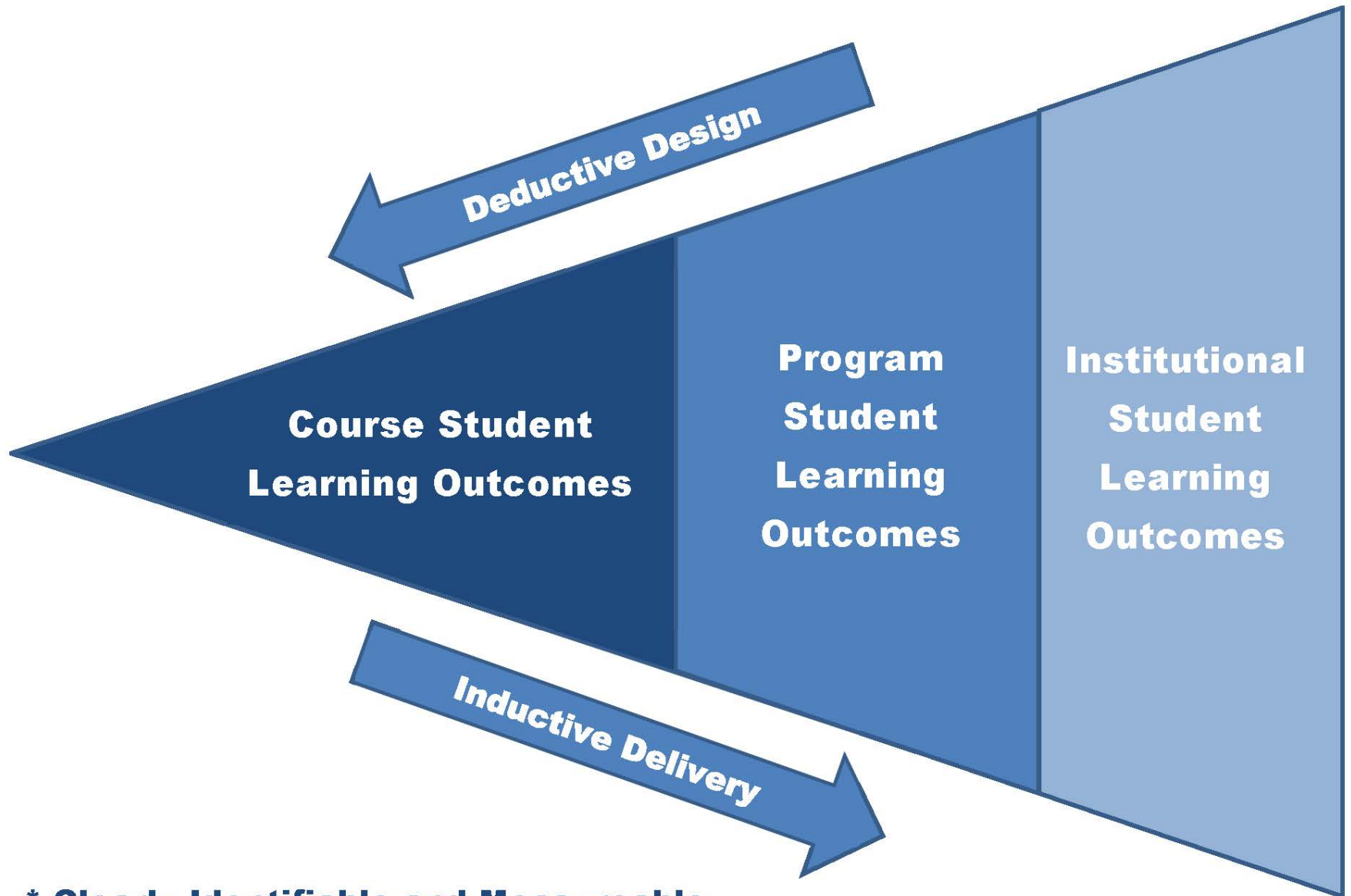
**Level of Skill Format - Curriculum with Clusters of Courses (Menu-type Curriculum)** - Some programs structure the curriculum with sets of courses that students can select among to meet one or more core areas. This curriculum map identifies several core clusters (menus of two or more courses that will satisfy a core requirement) and provides descriptive information about the level of skill students are expected to achieve on a given learning outcome in these courses.

**Level of Skill Format – Mapped by Course Sequence** - This format structures the curriculum with direct reference to the degree and extent that each student learning outcome is emphasized, in each course, in sequence.

### **Curriculum Maps as Assessment: Interpreting patterns to evaluate curriculum coherence**

Faculty can use a curriculum map to evaluate the coherence of its program curriculum. The curriculum map identifies the level of skill expected for student learning and student work products in required courses.

# Student Learning Outcomes\*



\* Clearly Identifiable and Measureable

# BS OL Curriculum Map

Courses and Activities Mapped to BS Organizational Leadership Outcome Set

Outcome				
Outcome 1: Demonstrate the application of effective written communication and research skills	Outcome 2: Apply leadership skills to strategic development and change.	Outcome 3: Identify the ethical behaviors and outcomes of decisions within a professional environment.	Outcome 4: Demonstrate knowledge of the organizational responsibilities of managers.	Outcome 5: Develop critical thinking skills for effective analysis in decision-making.

## Courses and Learning Activities

HUM 300 Dimensions of Ethical Leadership	P	P	P	I	I
MGT 300 Principles of Management	P	I	I	P	P
MGT 301 Perspectives on Organizational Behavior	P	P	I	I	P
MGT 302 Modern Organizational Theory	P	I	R	P	P
MGT 320 The Legal Environment of Business	P	I	P	I	P
MGT 350 Business Policy and Strategy	P	P	R	P	P
MGT 351 Organizational Innovation and Change	P	P	R	P	P
MGT 410 Project Management	P	R	R	P	P
MGT 470 Conflict Management and Negotiation	P	R	R	P	P
ORG 303 Applied Organizational Psychology	P	R	R	P	P
ORG 423 Communication Strategies for Leaders	P	P	R	R	P

**Legend:** I Introduced P Practiced R Reinforced

Show Outcome Descriptions

Show Course/Activity Detail

Simple Yes/No Format

	Introductory Course	Research Methods	Advanced Content Course A	Laboratory / Practicum Course	Advanced Content Course B	Advanced Content Course C	Advanced Content Course D	Capstone Course
<b>Content</b>								
SLO 1: Disciplinary knowledge base (models and theories)	X		X		X	X	X	X
SLO 2: Disciplinary methods		X		X		X		X
SLO 3: Disciplinary applications	X		X		X		X	X
<b>Critical Thinking</b>								
SLO 4: Analysis and use of evidence		X		X	X		X	X
SLO 5: Evaluation, selection, and use of sources of information	X	X		X		X		X
<b>Communication</b>								
SLO 6: Written communication skills	X	X		X		X		X
SLO 7: Oral communication skills		X			X	X		X
<b>Integrity / Values</b>								
SLO 8: Disciplinary ethical standards		X		X	X			X
SLO 9: Academic integrity	X	X	X	X		X		X
<b>Project Management</b>								
SLO 10: Interpersonal and team skills				X			X	X
SLO 11: Self-regulation and metacognitive skills				X		X		X

## Assignments and Embedded Assessment

	Introductory Course	Research Methods	Advanced Content Course A	Laboratory / Practicum Course	Advanced Content Course B	Advanced Content Course C	Advanced Content Course D	Capstone Course
<b>Content</b>								
SLO 1: Disciplinary knowledge base (models and theories)	Exam Questions		Exam Questions		Exam Questions	Exam Questions	Exam Questions	Capstone Portfolio
SLO 2: Disciplinary methods		Exam Questions		Exam Questions		Exam Questions		Capstone Portfolio
SLO 3: Disciplinary applications	Exam Questions		Exam Questions		Class Project		Term Paper	Capstone Portfolio
<b>Critical Thinking</b>								
SLO 4: Analysis and use of evidence		Term Paper		Lab Paper	Class Presentation		Term Paper	Capstone Portfolio
SLO 5: Evaluation, selection, and use of sources of information	Annotated Bibliography	Term Paper		Lab Paper		Term Paper		Capstone Portfolio
<b>Communication</b>								
SLO 6: Written communication skills	Reflection Essays			Lab Paper		Term Paper	Term Paper	Capstone Portfolio
SLO 7: Oral communication skills			Class Presentation	Poster Session	Class Presentation	Class Presentation		
<b>Integrity / Values</b>								
SLO 8: Disciplinary ethical standards		Reflective Paper		IRB/ACUC Proposal	Reflective Paper			Capstone Portfolio
SLO 9: Academic integrity	Class Assignments & Exams	Exams & Term Paper	Class Exams	Class Assignments & Exams	Class Assignments & Exams	Exams & Term Paper	Exams & Term Paper	Capstone Portfolio
<b>Project Management</b>								
SLO 10: Interpersonal and team skills			Peer Review of Team Skills		Project Client Feedback		Peer Review of Team Skills	Capstone Portfolio
SLO 11: Self-regulation and metacognitive skills	Class Assignments & Exams			Class Assignments & Exams	Class Assignments & Exams	Exams & Term Paper		Capstone Portfolio



Level of Skill

	Introductory Course	Research Methods	Advanced Content Course A	Laboratory / Practicum Course	Advanced Content Course B	Advanced Content Course C	Advanced Content Course D	Capstone Course
<b>Content</b>								
SLO 1: Disciplinary knowledge base (models and theories)	Introduced		Reinforced		Reinforced	Reinforced	Reinforced	Mastery / Assessed
SLO 2: Disciplinary methods		Introduced		Reinforced		Reinforced		Mastery / Assessed
SLO 3: Disciplinary applications	Introduced		Reinforced		Reinforced		Reinforced	Mastery / Assessed
<b>Critical Thinking</b>								
SLO 4: Analysis and use of evidence		Introduced		Reinforced	Reinforced		Reinforced	Mastery / Assessed
SLO 5: Evaluation, selection, and use of sources of information	Introduced	Reinforced		Reinforced		Reinforced		Mastery / Assessed
<b>Communication</b>								
SLO 6: Written communication skills	Introduced	Reinforced		Reinforced		Reinforced		Mastery / Assessed
SLO 7: Oral communication skills		Introduced	Reinforced		Reinforced	Mastery / Assessed		
<b>Integrity / Values</b>								
SLO 8: Disciplinary ethical standards		Introduced		Reinforced	Reinforced			Mastery / Assessed
SLO 9: Academic integrity	Introduced	Reinforced	Reinforced	Reinforced		Reinforced		Mastery / Assessed
<b>Project Management</b>								
SLO 10: Interpersonal and team skills			Introduced		Reinforced		Reinforced	Mastery / Assessed
SLO 11: Self-regulation and metacognitive skills	Introduced			Reinforced	Reinforced	Reinforced		Mastery / Assessed

## Level of Skill: Clusters of Courses

24 SH Curriculum	3 SH	3 SH	Course Cluster 1 (3 SH) (Students Select One Course)			3 SH	2 SH	Course Cluster 2 (3 SH) (Students Select One Course)		Course Cluster 3 (3 SH) (Students Select One Course)			4 SH
	Introductory Course	Research Methods	Cluster 1 Course A	Cluster 1 Course B	Cluster 1 Course C	Laboratory / Practicum Course	Laboratory / Practicum Course	Cluster 2 Course A	Cluster 2 Course B	Cluster 3 Course A	Cluster 3 Course B	Cluster 3 Course C	Capstone Course
<b>Content</b>													
SLO 1: Disciplinary knowledge base (models and theories)	Introduced		Reinforced	Reinforced	Reinforced	Reinforced		Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Mastery / Assessed
SLO 2: Disciplinary methods		Introduced		Reinforced			Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Mastery / Assessed
SLO 3: Disciplinary applications	Introduced		Reinforced	Reinforced	Reinforced	Reinforced	Reinforced					Reinforced	Mastery / Assessed
<b>Critical Thinking</b>													
SLO 4: Analysis and use of evidence		Introduced	Reinforced	Reinforced	Reinforced	Reinforced		Reinforced	Reinforced		Reinforced		Mastery / Assessed
SLO 5: Evaluation, selection, and use of sources of information	Introduced	Reinforced	Reinforced			Reinforced	Reinforced			Reinforced	Reinforced	Reinforced	Mastery / Assessed
<b>Communication</b>													
SLO 6: Written communication skills	Introduced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced				Mastery / Assessed
SLO 7: Oral communication skills		Introduced			Reinforced		Reinforced		Reinforced	Reinforced	Reinforced	Reinforced	
<b>Integrity / Values</b>													
SLO 8: Disciplinary ethical standards		Introduced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced			Reinforced			Mastery / Assessed
SLO 9: Academic integrity	Introduced	Reinforced	Reinforced			Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Reinforced	Mastery / Assessed
<b>Project Management</b>													
SLO 10: Interpersonal and team skills			Reinforced	Reinforced	Reinforced		Reinforced				Reinforced		Mastery / Assessed
SLO 11: Self-regulation and metacognitive skills	Introduced	Reinforced		Reinforced				Reinforced	Reinforced				Mastery / Assessed

Level of Skill - Mapped by Course - Sequence

Table 1 Core curriculum linkages to program outcomes

Semester	Course	Outcomes											
		a	b	c	d	e	f	g	h	i	j	k	
Freshmen Fall	Eng 100							3	2			2	
	Math 241	3										2	
	Chem 161 & 161L	3	2									1	
	FG Global and Multicultural Perspectives								3				
Freshmen Spring	Math 242	3										2	
	Phys 170 & 170L	3	3									2	
	Chem 162	3										1	
	EE 160 or ICS 111	3		1					1			3	
Sophomore Fall	CEE 270	3				3	1		1	1	1	3	
	Math 243	3										2	
	Phys 272 & 272L	3	3	1								2	
	FG Global and Multicultural Perspectives								3				
	DH Hum. Div. Req. or DL Lit. Div. Req.								3				
Sophomore Spring	CEE 271	3				2	1						
	Math 244	3										2	
	CEE 370 & 370L	2	3	1	1	3	1	3		1	1	1	
	Biological science elective	3							3				
	Sp 251							3	2				
Junior Fall	CEE 305	3	1	1		2	1		1		1	1	
	CEE 320	3	3		2	2	1	3		1	1		
	CEE 361	1					1	1	2	1	3	1	
	DS Social Sci. Div. Req. Econ. Elect.								3				
	Math Elect - ME403,GG312,Math302/307	3										2	
Junior Spring	CEE 330	3	2	1	1	2	1	1	2		2	3	
	CEE 355	3	3		3	2		2	1	1	1	2	
	CEE 375	1	3	2	1	1	1	2	1	2	2	2	
	CEE 381	3				2				1		2	
	DS Social Science Div. Req.								3				
Senior Fall	CEE 461, CEE 462 or CEE 464	3 1 2	1 1 1	2	1 2 3	3 1 1	1 1 2		1 3 3	1 3 3		2 1 2	
	CEE 472, CEE 473 or CEE 474	1 1 1		1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	1 1 2	
	Technical Elective <sup>2</sup>	See below											
	Technical Elective <sup>2</sup>	See below											
	CEE 489B	1			1	1	1			1			2
	CEE 489C						3		1	1	1		
	CEE 421 or CEE 431 CEE 455	3 3 3	2 2 1	3 2 2	1 3 3	3 3 1	2 2 1	1 2 1	2 2 1	2 2 1	2 2 1	1 2 1	3 3 3