

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.

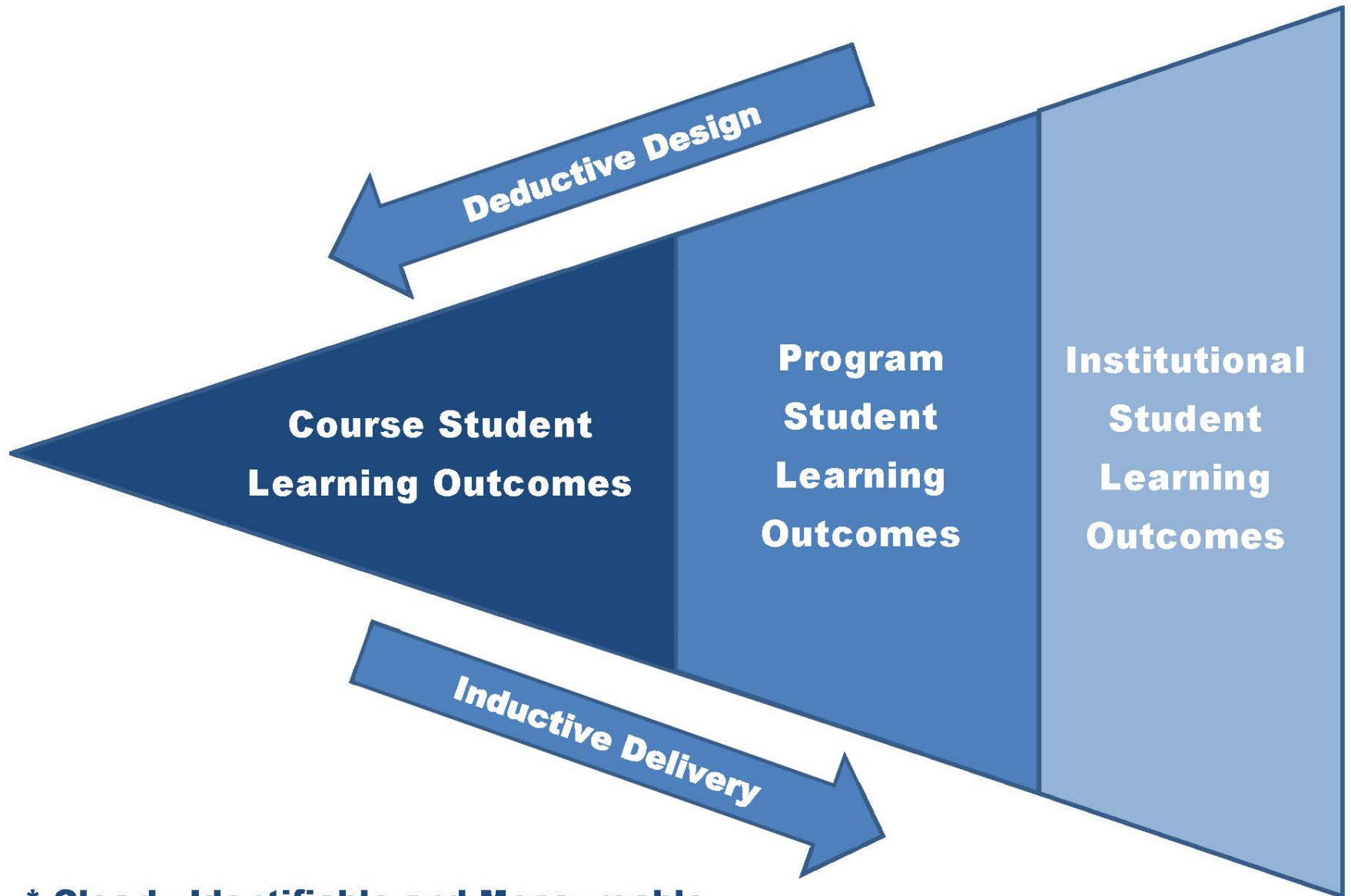
Level of Skill Format - Curriculum with Clusters of Courses (Menu-type Curriculum) - Some programs structure the curriculum with sets of courses that students can select among to meet one or more core areas. This curriculum map identifies several core clusters (menus of two or more courses that will 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 |
|---|---------------------|------------------|---------------------------|-------------------------------|---------------------------|---------------------------|---------------------------|-----------------|
| Content | | | | | | | | |
| 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 |
| Critical Thinking | | | | | | | | |
| 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 |
| Communication | | | | | | | | |
| SLO 6: Written communication skills | X | X | | X | | X | | X |
| SLO 7: Oral communication skills | | X | | | X | X | | X |
| Integrity / Values | | | | | | | | |
| SLO 8: Disciplinary ethical standards | | X | | X | X | | | X |
| SLO 9: Academic integrity | X | X | X | X | | X | | X |
| Project Management | | | | | | | | |
| 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 |
|---|---------------------------|--------------------|----------------------------|-------------------------------|---------------------------|---------------------------|----------------------------|--------------------|
| Content | | | | | | | | |
| 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 |
| Critical Thinking | | | | | | | | |
| 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 |
| Communication | | | | | | | | |
| 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 | | |
| Integrity / Values | | | | | | | | |
| 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 |
| Project Management | | | | | | | | |
| 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 |
|---|---------------------|------------------|---------------------------|-------------------------------|---------------------------|---------------------------|---------------------------|--------------------|
| Content | | | | | | | | |
| 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 |
| Critical Thinking | | | | | | | | |
| 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 |
| Communication | | | | | | | | |
| SLO 6: Written communication skills | Introduced | Reinforced | | Reinforced | | Reinforced | | Mastery / Assessed |
| SLO 7: Oral communication skills | | Introduced | Reinforced | | Reinforced | Mastery / Assessed | | |
| Integrity / Values | | | | | | | | |
| SLO 8: Disciplinary ethical standards | | Introduced | | Reinforced | Reinforced | | | Mastery / Assessed |
| SLO 9: Academic integrity | Introduced | Reinforced | Reinforced | Reinforced | | Reinforced | | Mastery / Assessed |
| Project Management | | | | | | | | |
| 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 |
| Content | | | | | | | | | | | | | |
| 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 |
| Critical Thinking | | | | | | | | | | | | | |
| 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 |
| Communication | | | | | | | | | | | | | |
| 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 | |
| Integrity / Values | | | | | | | | | | | | | |
| 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 |
| Project Management | | | | | | | | | | | | | |
| 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 | 3 | 1 | | 1 | 1 | | 2 |
| | | 1 | 1 | | 2 | | 1 | 3 | | 3 | 1 | 1 |
| | | 2 | 1 | | 3 | 1 | 1 | 2 | 3 | 3 | 1 | 2 |
| | CEE 472, CEE 473 or CEE 474 | 1 | | | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| | | 1 | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 1 | | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Technical Elective ² | See below | | | | | | | | | | |
| Technical Elective ² | See below | | | | | | | | | | | |
| | CEE 489B | 1 | | | 1 | 1 | 1 | | | 1 | | 2 |
| | CEE 489C | | | | | | 3 | | 1 | 1 | 1 | |
| Senior Spring | CEE 421 or CEE 431 | 3 | 2 | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 1 | 3 |
| | | 3 | | 2 | | 3 | | | 2 | 2 | 2 | 3 |
| | CEE 455 | 3 | 1 | 2 | | 3 | 1 | | 1 | 1 | | 3 |