Making the Most out of Your Course Syllabi: Construction and Alignment
Assessment is....

1. A planning process for any learning experience at any institutional level
   - Given day’s class
   - Course
   - Degree Program

2. A heuristic for intentionality in teaching and learning

3. Instructional activities selected to
   - facilitate development of and
   - to reveal (to the teacher and the students) student learning in relation to learning goals.

4. A form or “action research” to advance student learning

5. Draw conclusions about student learning achievements in the aggregate

6. Act on the results to improve student achievement of learning goals

1. Establish and make public goals for student learning. Expressed as learning outcomes, criteria and standards.

2. Determine the evidence. What work will students do to demonstrate learning?


5. Draw conclusions about student learning achievements in the aggregate

6. Act on the results to improve student achievement of learning goals

Laura E. Martin, 2015

Hybrid of Suskie (2009), the CIRTL Teaching-as-Research (TAR) framework, and Backward Design (McTighe & Williams, 1998)
Some Qualities of a Meaningful, Useful PLO

1. Written from perspective "Students will be (or are) able to..."

2. Includes an action verb describing the cognitive skills graduates will demonstrably possess. (See Iowa State's A Model of Learning Objectives)

3. Action verb represents a higher order thinking skill, appropriate to a bachelor's degree holder in discipline.

4. Identifies the kind(s) of knowledge graduates will demonstrably possess.

5. Describes how students will demonstrate their learning/points to sources of evidence of learning (i.e. is measurable).

6. Points to the kinds of learning experiences students need to develop the
   deeper with learning.

7. Is understandable to students, although understanding may be expected to
At your tables, work on developing measurable learning outcomes.

1. As an instructor, what do you want to achieve in your course (what is your goal)?

2. Given your goal, what kinds of things do you want your students to be able to do if they pass the class?

3. Using the Bloom's Taxonomy chart(s) in your handouts, locate some active verbs in each column that might correspond to your goals for student achievement.

4. Combine Points 1–3 and write one or two learning outcomes for this course. Work to avoid only factual outcomes ("list the kings and queens of England") and strive for a mixture of lower and higher order skills.

5. Finally, what Domain(s) of Learning do these outcomes fall under? Explain.
<table>
<thead>
<tr>
<th>Definition</th>
<th>I. Remembering</th>
<th>II. Understanding</th>
<th>III. Applying</th>
<th>IV. Analyzing</th>
<th>V. Evaluating</th>
<th>VI. Creating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bloom's Definition</strong></td>
<td>Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.</td>
<td>Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.</td>
<td>Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.</td>
<td>Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.</td>
<td>Present and defend opinions by making judgments about information, validly of ideas, techniques, methods and approaches.</td>
<td>Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.</td>
</tr>
<tr>
<td><strong>Verbs</strong></td>
<td>• Choose</td>
<td>• Define</td>
<td>• Find</td>
<td>• How</td>
<td>• Label</td>
<td>• List</td>
</tr>
</tbody>
</table>

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A Model of Learning Objectives

based on

A Taxonomy for Learning, Teaching, and Assessing:
A Revision of Bloom's Taxonomy of Educational Objectives

Among other modifications, Anderson and Krathwohl’s (2001) revision of the original Bloom’s taxonomy (Bloom & Krathwohl, 1956) redefines the cognitive domain as the intersection of the Cognitive Process Dimension and the Knowledge Dimension. This document offers a three-dimensional representation of the revised taxonomy of the cognitive domain.

Although the Cognitive Process and Knowledge dimensions are represented as hierarchical steps, the distinctions between categories are not always clear-cut. For example, all procedural knowledge is not necessarily more abstract than all conceptual knowledge; and an objective that involves analyzing or evaluating may require thinking skills that are no less complex than one that involves creating. It is generally understood, nonetheless, that lower order thinking skills are subsumed by, and provide the foundation for higher order thinking skills.

The Knowledge Dimension classifies four types of knowledge that learners may be expected to acquire or construct—ranging from concrete to abstract (Table 1).

Table 1. The Knowledge Dimension – major types and subtypes

<table>
<thead>
<tr>
<th>concrete knowledge</th>
<th>factual</th>
<th>conceptual</th>
<th>procedural</th>
<th>metacognitive*</th>
</tr>
</thead>
<tbody>
<tr>
<td>knowledge of terminology</td>
<td>knowledge of classifications and categories</td>
<td>knowledge of subject-specific skills and algorithms</td>
<td>strategic knowledge</td>
<td></td>
</tr>
<tr>
<td>knowledge of specific details and elements</td>
<td>knowledge of principles and generalizations</td>
<td>knowledge of subject-specific techniques and methods</td>
<td>knowledge about cognitive tasks, including appropriate contextual and conditional knowledge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>knowledge of theories, models, and structures</td>
<td>knowledge of criteria for determining when to use appropriate procedures</td>
<td>self-knowledge</td>
<td></td>
</tr>
</tbody>
</table>

(Table 1 adapted from Anderson and Krathwohl, 2001, p. 46.)

*Metacognitive knowledge is a special case. In this model, “metacognitive knowledge is knowledge of [one’s own] cognition and about oneself in relation to various subject matters . . . ” (Anderson and Krathwohl, 2001, p. 44).
This taxonomy provides a framework for determining and clarifying learning **objectives**. Learning **activities** often involve both lower order and higher order thinking skills as well as a mix of concrete and abstract knowledge.

**The Cognitive Process Dimension** represents a continuum of increasing cognitive complexity—from lower order thinking skills to higher order thinking skills. Anderson and Krathwohl (2001) identify nineteen specific cognitive processes that further clarify the scope of the six categories (Table 2).

**Table 2. The Cognitive Processes dimension — categories & cognitive processes** and alternative names

<table>
<thead>
<tr>
<th>lower order thinking skills</th>
<th>apply</th>
<th>analyze</th>
<th>evaluate</th>
<th>create</th>
</tr>
</thead>
<tbody>
<tr>
<td>remember</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>recognizing</td>
<td>interpreting</td>
<td>executing</td>
<td>differentiating</td>
<td>checking</td>
</tr>
<tr>
<td>recalling</td>
<td>interpreting</td>
<td>implementing</td>
<td>differentiating</td>
<td>checking</td>
</tr>
<tr>
<td>• identifying</td>
<td>• clarifying</td>
<td>• carrying out</td>
<td>• discriminating</td>
<td>• coordinating</td>
</tr>
<tr>
<td>• retrieving</td>
<td>• paraphrasing</td>
<td>• using</td>
<td>• distinguishing</td>
<td>• detecting</td>
</tr>
<tr>
<td>• recalling</td>
<td>• representing</td>
<td>• focusing</td>
<td>• selecting</td>
<td>• monitoring</td>
</tr>
<tr>
<td>• retrieving</td>
<td>• translating</td>
<td>• inferring</td>
<td>• concluding</td>
<td>• testing</td>
</tr>
<tr>
<td>• recognizing</td>
<td>• exemplifying</td>
<td>• inferring</td>
<td>• extrapolating</td>
<td>• critiquing</td>
</tr>
<tr>
<td>• exemplifying</td>
<td>• illustrating</td>
<td>• inferring</td>
<td>• interpolating</td>
<td>• judging</td>
</tr>
<tr>
<td>• exemplifying</td>
<td>• instantiating</td>
<td>• inferring</td>
<td>• predicting</td>
<td>• generating</td>
</tr>
<tr>
<td>classifying</td>
<td>• categorizing</td>
<td>organizing</td>
<td>• finding coherence</td>
<td>• hypothesizing</td>
</tr>
<tr>
<td>• classifying</td>
<td>• subsuming</td>
<td>• organizing</td>
<td>• integrating</td>
<td>• planning</td>
</tr>
<tr>
<td>summarizing</td>
<td>• abstracting</td>
<td>• organizing</td>
<td>• outlining</td>
<td>• designing</td>
</tr>
<tr>
<td>• summarizing</td>
<td>• generalizing</td>
<td>• organizing</td>
<td>• parsing</td>
<td>• producing</td>
</tr>
<tr>
<td>• summarizing</td>
<td>• attributing</td>
<td>• organizing</td>
<td>• structuring</td>
<td>• constructing</td>
</tr>
<tr>
<td>• summarizing</td>
<td>• inferring</td>
<td>• attributing</td>
<td>• constructing</td>
<td></td>
</tr>
<tr>
<td>• comparing</td>
<td>• comparing</td>
<td>• attributing</td>
<td>• constructing</td>
<td></td>
</tr>
<tr>
<td>• comparing</td>
<td>• contrasting</td>
<td>• attributing</td>
<td>• constructing</td>
<td></td>
</tr>
<tr>
<td>• comparing</td>
<td>• mapping</td>
<td>• attributing</td>
<td>• constructing</td>
<td></td>
</tr>
<tr>
<td>• comparing</td>
<td>• matching</td>
<td>• attributing</td>
<td>• constructing</td>
<td></td>
</tr>
<tr>
<td>explaining</td>
<td>• explaining</td>
<td>• attributing</td>
<td>• constructing</td>
<td></td>
</tr>
<tr>
<td>• explaining</td>
<td>• constructing models</td>
<td>• attributing</td>
<td>• constructing</td>
<td></td>
</tr>
</tbody>
</table>

(Table 2 adapted from Anderson and Krathwohl, 2001, pp. 67–68.)
A statement of a learning objective contains a verb (an action) and an object (usually a noun). Note: Objectives = Outcomes at UCM

- The verb generally refers to [actions associated with] the intended cognitive process.
- The object generally describes the knowledge students are expected to acquire or construct. (Anderson and Krathwohl, 2001, pp. 4–5)

In this model, each of the colored blocks shows an example of a learning objective that generally corresponds with each of the various combinations of the cognitive process and knowledge dimensions.

Remember: these are learning objectives—not learning activities. It may be useful to think of preceding each objective with something like: “Students will be able to . . .”

Institutional Learning Outcomes

Institutional Learning Outcomes highlight the knowledge, skills and abilities all students are expected to have upon graduating from CSULB.

Graduates will be:

- Well-prepared with communication, numeracy and critical thinking skills to successfully join the workforce of California and the world or to pursue advanced study;
- Critically and ethically engaged in global and local issues;
- Knowledgeable and respectful of the diversity of individuals, groups, and cultures;
- Accomplished at integrating the skills of a liberal education with disciplinary or professional competencies;
- Skilled in collaborative problem-solving, research, and creative activity.

These outcomes are integral to the mission and vision of California State University, Long Beach, and are essential for graduates to have upon graduating from CSULB.
You have developed your outcomes, but now what do you do with them? For this section, we will work on aligning your outcomes.

1. Using your results from the Learning Outcomes section, find some overlap between your Learning Outcomes, your program's learning outcomes and your institution's outcomes (listed in your booklet).

2. Is this a GE Course? Does it align with a Core Competency?

3. Class alignment – Take your Learning Outcome and think about possible assessments you can provide in the class. Examples include, but are not limited to: in-class examinations, group presentations, online discussions, specific types of writing, poster presentation, portfolio, etc.

4. How might these exercises build partnerships across divisions? In other words, how might this experience influence and support your students' learning in other courses?

NB: we will return to program-level assessment of learning outcomes in a later section.

<table>
<thead>
<tr>
<th>LEARNING OUTCOME</th>
<th>EVALUATION(S) PLANNED</th>
</tr>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

Please list any additional assessments you plan to use for these outcomes:

- [ ] Written assignment
- [ ] In-class examination
- [ ] Group presentation
- [ ] Online discussion
- [ ] Portfolio
- [ ] Poster presentation

Please list any additional assessments you plan to use for these outcomes:

- [ ] Written assignment
- [ ] In-class examination
- [ ] Group presentation
- [ ] Online discussion
- [ ] Portfolio
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Your book(s), Learning Outcomes, your program's learning outcomes and your institution's outcomes (listed in your booklet). You have developed your outcomes, but now what do you do with them? For this section, we will work on aligning your outcomes.
University Mission Statement:
California State University Long Beach is a diverse, student-centered, globally-engaged public university committed to providing highly-valued undergraduate and graduate educational opportunities through superior teaching, research, creative activity and service for the people of California and the world.

WSCUC Core Competencies (written / oral communication, critical thinking, quantitative reasoning, information literacy)

Institutional Learning Objectives
Foundational & General
(http://www.csulb.edu/divisions/aa/assessment/institutional_objective.html)

LEAP Learning outcomes
Both for GE courses and "regular" courses
Builds on ILOs
(http://www.csulb.edu/divisions/aa/ge/) & (http://www.aacu.org/leap/vision.cfm)

Program-level Outcomes
Builds on LEAP and ILOs
Specific to each program / department
Should be posted at:
http://www.csulb.edu/divisions/aa/assessment/student_learning_outcomes.html

Class-level learning outcomes
Most specific of the learning outcomes; specific to course
Should relate to all learning outcomes and specific course assessments
Academic Affairs/Student Affairs
Learning Outcomes Alignment

- WASC Core Competencies
- Institutional Learning Outcomes
- GE / LEAP Outcomes
- Program Learning Outcomes
- Multiple Sections
- Class Learning Outcomes
- Programs, Services, Activities

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Use the chart below to map your own courses in relation to your Program Learning Outcomes (PLOs). Where do your courses introduce, reinforce, or expect mastery of the PLOs?

<table>
<thead>
<tr>
<th>Courses</th>
<th>PLO 1</th>
<th>PLO 2</th>
<th>PLO 3</th>
<th>PLO 4</th>
<th>PLO 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Curriculum Maps

Mary Allen
Emeritus, California State University Center for Teaching and Learning

The Curriculum Map
• Focuses faculty on curriculum coherence
• Guides course planning
• Allows faculty to identify potential sources of embedded assessment evidence
• Allows faculty to identify where they might close the loop

Let's analyze some curriculum map patterns

A = Assessed: evidence of student learning gathered for the purposes of program assessment.
M = Mastery: students demonstrate knowledge and skills at a level appropriate for a degree holder/graduate.
D = Develop: students are given opportunities to deepen their knowledge of and practice the outcomes with feedback to increase their sophistication with intended skills and knowledge.
I = Introduce: learning outcomes are introduced at a basic level.

<table>
<thead>
<tr>
<th>GE Requirement</th>
<th>Program 1</th>
<th>Program 2</th>
<th>Program 3</th>
<th>Program 4</th>
<th>Program 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Outcome 1</td>
<td>Outcome 2</td>
<td>Outcome 3</td>
<td>Outcome 4</td>
<td>Outcome 5</td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Curriculum Map B: GE Curriculum Map

<table>
<thead>
<tr>
<th>GE Requirement</th>
<th>Program 1</th>
<th>Program 2</th>
<th>Program 3</th>
<th>Program 4</th>
<th>Program 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Outcome 1</td>
<td>Outcome 2</td>
<td>Outcome 3</td>
<td>Outcome 4</td>
<td>Outcome 5</td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With minor modifications by Laura E. Martin, University of California, Merced 09/2016 page 14
Think about a program you contribute to. Does it have:

- Coherence: It's not a collection of unrelated courses.
- Systematically created opportunities to develop increasing sophistication and apply what is learned.
- Ongoing practice of learned skills: To avoid deterioration of prior learning.
- Synthesizing experiences for students: Systematic opportunities for students to consolidate learning.
Scoring schemas conceptualize how the curriculum of a program addresses the intended learning outcomes. They do so by describing the opportunities students have to meet, develop (through practice with feedback), and demonstrate their learning at a level appropriate for a graduate or exit from a program.

Example scoring schemas follow. In all cases, levels of development are described with reference to the abilities a student should demonstrably possess upon successfully completing the program.

A. Mary Allen, emeritus, California State University Center for Teaching and Learning

**Introduce (I):** Learning outcomes are introduced at a basic level.

**Develop (D):** Students are given opportunities to deepen their knowledge of and practice the outcomes with feedback to increase their sophistication with intended skills and knowledge.

**Mastery (M):** Students demonstrate knowledge and skills at a level appropriate for a graduate.

Introduce Learning outcomes are placed on an intended learning outcome in a course.

Also from the University of Hawaii, a scoring schema that illustrates the degree of emphasis placed on an intended learning outcome in a course.

**Introduce (I):** Learning outcomes are introduced.

**Enhanced (E):** Learning outcomes are introduced with the opportunity to practice.

**Mastery (M):** Mastery at the senior or exit level.

**Assessed (A):** Assessment evidence collected.

This schema can be useful where didactic learning is separate from experiential learning.

B. University of Hawaii, Manoa, Assessment Office

**Introduce (I):** Learning outcomes are introduced.

**Reinforced (R):** Learning outcomes are reinforced with the opportunity to practice.

**Mastery (M):** Mastery at the senior or exit level.

**Assessed (A):** Assessment evidence collected.

Also from the University of Hawaii, a scoring schema that illustrates the degree of emphasis placed on an intended learning outcome in a course.

1 Adapted from document by Fred Trapp, Cambridge West Partnership, LLC. Fredtrapp@gmail.com

Laura E. Martin, University of California, Merced

| 1  | Significant emphasis |
| 2  | Moderate emphasis    |
| 3  | Some emphasis        |

19/2016 page 16

A. Mary Allen, emeritus, California State University Center for Teaching and Learning

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B. University of Hawaii, Manoa, Assessment Office

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Also from the University of Hawaii, a scoring schema that illustrates the degree of emphasis placed on an intended learning outcome in a course.

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| 2  | Moderate emphasis    |
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19/2016 page 16

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Also from the University of Hawaii, a scoring schema that illustrates the degree of emphasis placed on an intended learning outcome in a course.

| 1  | Significant emphasis |
| 2  | Moderate emphasis    |
| 3  | Some emphasis        |
Students are not expected to be familiar with the content or skill at a collegiate level. Instruction and learning activities focus on basic knowledge, skills and/or competencies. All components of the outcome are addressed in this institution.

Moderate emphasis: The student uses, reinforces, applies and/or evaluates the outcome, but it is not the focus of the course.

Minor emphasis: The student is provided an opportunity to use, reinforce and/or apply the learning outcome.

No emphasis: The student does not address this learning outcome.

Introduction (I)

Major emphasis: The student is actively involved (uses, reinforces, applies and/or evaluates) in the learning outcome, but it is not the focus of the course.

Advanced (A)

Students are expected to possess an advanced level of knowledge, skill or competency in the outcome.

Reinforced (R)

Students are expected to possess a strong foundation in the knowledge, skill or competency and/or be able to apply it in multiple contexts.

Emphasized (E)

Students are expected to possess a basic level of knowledge, skill or competency and/or be able to apply it in multiple contexts.

Course does not include instruction on the outcome.

Includes some instruction or practice and assessment of the outcome.

Addresses the outcome as a focus in 20% or more of the course.

Addresses the outcome as a focus in 33% or more of the course.

Addresses the outcome as a focus in 43% or more of the course.