

## STUDENT LEARNING OUTCOMES *Best Practices*

### Basic Elements of a Student Learning Outcome (SLO)

<i>emphasis on student</i>	<i>observable, "action" verb</i>	<i>learning statement</i>
1. Students	can describe	fundamental biological processes and systems
2. Students	can demonstrate	proper laboratory practice, proper use of equipment, and the ability to use basic and advanced techniques
3. Students	can perform	appropriate analysis of data and draw valid conclusions from their analysis
4. Students	can analyze	issues associated with globalization and economic development in Oceania
5. Students	can evaluate	major historical issues and events affecting Oceanic societies
6. Students	can communicate	original research findings orally and in writing
7. Students	can distinguish	between science and pseudo-science

### Practical Considerations

#### Start Here

- \* Start where you are. Use existing documents as the starting point.
- \* Tailor outcomes from other institutions or the field's professional organization(s).

#### Meaningful & Important

- \* Focus on the central aspects of the discipline/field and those that are most meaningful and important.
- \* Place the emphasis on students—what they will be able to know, or value—not on what professors will teach or what the program will cover.

#### "Action" Verbs

- \* Use verbs that describe what information, skills, and cognitive/developmental changes students should be able to demonstrate because of the program.

#### Be Realistic

- \* Keep the learning outcomes to a reasonable number (4-6).
- \* Include only those learning outcomes the program can reasonably and directly address.
- \* Avoid jargon; students and others should be able to understand the outcomes.
- \* Because all outcomes must be assessed, create outcomes that observable or measureable.

#### Sequential Outcomes

- \* When possible, list the learning outcomes sequentially, in students' developmental pattern.

#### Collaborate & Disseminate

- \* Collaborative development and collective acceptance of program outcomes provides focus and a common direction for the program's faculty members.
- \* Once outcomes are collaboratively developed and collectively accepted, they need to be shared!

## Bloom's Taxonomy

Bloom's taxonomy is a well-known description of levels of educational objectives. It may be useful to consider this taxonomy when creating outcomes. At the program level, aim for *application*, *analysis*, *synthesis*, and *evaluation*.

<b>Knowledge</b>	To know specific facts, terms, concepts, principles, or theories
<b>Comprehension</b>	To understand, explain
<b>Application</b>	To apply knowledge to new situations, to solve problems
<b>Analysis</b>	To identify parts, relationships, and organizing principles; To identify the organizational structure of something
<b>Synthesis</b>	To create something, to integrate ideas into a solution, to propose an action plan, to formulate a new classification scheme
<b>Evaluation</b>	To judge the quality of something based on its adequacy, value, logic, or use

## “Action” Verbs

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
cite	arrange	apply	analyze	arrange	appraise
define	classify	carry out	break down	assemble	assess
duplicate	convert	change	calculate	collect	check
find	defend	compute	categorize	combine	choose
identify	describe	construct	compare	compile	compare
indicate	diagram	demonstrate	contrast	compose	conclude
know	discuss	discover	criticize	construct	contrast
label	distinguish	dramatize	debate	create	criticize
list	estimate	employ	deconstruct	design	critique
match	explain	execute	determine	devise	decide
memorize	extend	illustrate	diagram	formulate	discriminate
name	generalize	implement	differentiate	generate	evaluate
outline	give examples	interpret	discriminate	invent	experiment
recall	infer	investigate	distinguish	manage	grade
recognize	locate	manipulate	examine	modify	hypothesize
record	outline	operate	illustrate	perform	interpret
repeat	paraphrase	practice	infer	plan	judge
reproduce	report	predict	inspect	prepare	justify
retrieve	restate	prepare	interrogate	produce	measure
state	review	produce	inventory	propose	rate
underline	suggest	schedule	organize	rearrange	score
	summarize	shop	outline	reconstruct	select
	translate	sketch	question	reorganize	support
		solve	relate	revise	test
		translate			value
		use			
<i>Alternative Headings</i>					
<b>Remembering</b>	<b>Understanding</b>	<b>Applying</b>	<b>Analyzing</b>	<b>Creating</b>	<b>Evaluating</b>

Adapted from Gronlund, N. E. (1991). *How to write and use instructional objectives* (4<sup>th</sup> Ed.). New York: Macmillan Publishing Co. and Mary Allen Workshop (May, 2008) UHM