

Chancellor's Office - Appendix 2

- SLO

SLOs vs. Objectives: What's the Difference?

- Objectives might be thought of as the “nuts and bolts” of a subject. Outcomes are what we expect students to be able to do with the nuts and bolts in terms of knowledge, skills and abilities.
- While objectives state what students will learn, outcomes demonstrate the specific observable and measurable product of that learning – the higher order application of knowledge and skills.
 - Outcomes usually encompass a gathering together of smaller discrete objectives through analysis, evaluation, and synthesis into more sophisticated skills and abilities.

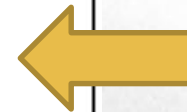


Bloom's Taxonomy

Know		Comprehend	
Count	Read	Classify	Interpret
Define	Recall	Cite	Locate
Describe	Recite	Conclude	Make sense of
Enumerate	Record	Describe	Paraphrase
Find	Reproduce	Discuss	Predict
Identify	Select	Estimate	Report
Label	Sequence	Explain	Restate
List	State	Generalize	Review
Match	View	Give examples	Summarize
Name	Write	Illustrate	Trace
Apply		Analyze	
Assess	Instruct	Break down	Examine
Change	Predict	Characterize	Illustrate
Chart	Prepare	Classify	Infer
Choose	Produce	Compare	Limit
Compute	Relate	Contrast	Outline
Construct	Report	Correlate	Point out
Demonstrate	Select	Diagram	Prioritize
Determine	Show	Differentiate	Relate
Develop	Solve	Discriminate	Separate
Establish	Use	Distinguish	Subdivide
Synthesize		Evaluate	
Adapt	Invent	Appraise	Interpret
Categorize	Modify	Argue	Judge
Compose	Organize	Assess	Justify
Construct	Perform	Choose	Predict
Create	Produce	Compare & Contrast	Prioritize
Design	Propose	Conclude	Prove
Formulate	Reinforce	Critique	Rank
Generate	Reorganize	Decide	Rate
Incorporate	Rewrite	Defend	Reframe
Integrate	Structure	Evaluate	Support

Critical Thinking:

- Analyze
- Synthesize
- Evaluate



SBCC SLO Development Guidelines

OBJECTIVES -- explain what will be done in a course/program (forward looking)

OUTCOMES -- explain what students will know/be able to do after the completing the course/program (backward looking)

1. Outcomes synthesize objectives, so there are more objectives than outcomes
2. Outcomes assess components unique to your course/program/discipline
3. Outcomes are observable and measurable
4. Outcomes describe what the student has learned
 - a. Outcomes use “action verbs” (see Bloom's Taxonomy - such as, analyze, appraise, articulate, assess, categorize, describe, explain, evaluate, interpret)
5. Outcomes avoid vague words or phrases.
 - a. "Demonstrate knowledge" and "Understand" need to be changed to measurable outcomes.
 - b. "Simple/Basic," "Beginner," "Level 1," "high-quality," etc. must be characterized through explanation or examples: “Based on the following skills...,” “Based on the Course Outline of Record,” or “According to [your professional organization or external standards body].”

SBCC SLO Development Guidelines

How many do you need?

CSLOs: Approximately 3-5 per course. Minimum 2.

PSLOs: Approximately 3-5 per program. Minimum 2.

Lower-unit courses/programs will likely have fewer SLOs than higher-unit courses/programs.

EXAMPLES

	Unacceptable Too general and unmeasurable	Still Unacceptable Still general and difficult to measure	Acceptable Specific and measurable
1.	Appreciate the benefits of exercise.	Value exercise as a stress reduction tool.	Explain how exercise affects stress.
2.	Develop problem-solving skills and conflict resolution.	Demonstrate ability to resolve personal conflicts and assist others in resolving conflicts.	Assist classmates in resolving conflicts by helping them negotiate agreements.
3.	Be able to have more confidence in their abilities.	Demonstrate critical thinking skills, such as problem solving as it relates to social issues.	Analyze and respond to arguments about racial discrimination.

Examples adapted from "A Guide to Developing Measurable Student Learning Outcomes," Cañada College Office of Planning, Research & Student Services

SBCC SLO Development Guidelines

Sample SLOs

Geological Sciences

Program Outcomes

- Evaluate earth processes and/or earth history using earth materials and geologic principles. Assessment: Lecture, lab and field work assessed by quizzes and examinations.
- Classify and interpret rocks, minerals, and fossils. Assessment: Lecture, lab and field work assessed by quizzes and examinations.

DRFT 161 - History of Architecture 1

Course Objectives:

- Introduce students to the essentials of the theories, history and concepts of architecture
- Develop a common base of knowledge regarding architecture throughout history
- Introduce students to the concept of the relationship between design, history and theory

Course SLOs:

- Distinguish concepts, materials and methods from specific architectural ages
- Recognize the evolution of architectural language throughout history
- Interpret architecture and design theory based on historical observation

SBCC SLO Development Guidelines

Sample SLOs - continued

CIS NC005 - VMware vSphere Install and Configure

- Explain the process of creating virtual machine using VMware vSphere.
- Demonstrate the ability to configure virtual networks and storage.

PRO NC068 - Professional Etiquette

- Describe proper body language for the workplace.
- Explain professionalism as it pertains to: 1) answering the phone; 2) introducing people; 3) emails; 4) asking questions or making constructive criticisms.

NC-AHS HSMA 5 - Introductory Geometry

- Identify the correct operation or formula given multi-step word problems involving angles, triangles, plane and solid figures.
- Apply computer literacy skills to solve calculations involving geometrical formulas.
- Estimate the amount of resources needed to complete household project such as painting, tiling, and basic construction activities.

SBCC SLO Development Guidelines

Sample SLOs - continued

HE 111 - Understanding Human Sexuality

- Identify both reproductive organs and their functions and dysfunctions.
- Describe healthy sexuality, including fulfilling relationships, STI prevention, and impacts of sexual abuse, and intimate partner violence.
- Evaluate the impacts of family planning, including contraception and positive parenting.
- Identify key elements of sexual identity, including gender, sexual orientation, and sexual behavior across the life span.

HSEC NC010 - Economics

- Read and evaluate charts and graphs to extract economic information.
- Differentiate between basic economic concepts and terms, such as supply and demand, and macro and micro economics.
- Use major economic concepts to interpret fundamental business, government and personal finance issues.
- Apply economic concepts to daily life experiences.

SBCC SLO Development Guidelines

Sample SLOs - continued

BMS 100 - The Human Body

- Summarize the organ systems of the human body and correlate the functions of the organs systems with their gross and microscopic structures.
- Analyze human structures and functions with respect to established principles in the biological and physical sciences.
- Interpret results of laboratory investigations in light of the theoretical bases of biomedical science.
- Demonstrate the skeletal and muscular landmarks of the body and apply the connections between them to infer principles of human movement.
- Assess scientific and popular sources of information within the context of modern physiology, biochemistry, and genetics.

SOC 106 - Sociology of Deviance

- Identify cultural and social definitions of deviant behavior
- Discuss theories and empirical studies of social deviance
- Define, explain and apply terms and concepts related to the study of deviance
- Identify and discuss social problems related to deviance
- Evaluate social responses to crime and social control