FORMULATING S.M.A.R.T. STUDENT LEARNING OUTCOMES (SLOs)

GUIDE FOR EDUCATIONAL PROGRAMS

SLOs are the knowledge, skills, values, and attitudes that students are expected to attain throughout their studies in a program and/or in a specific course. SLOs encapsulate what students will be able to know, do, and care about as a result of their learning experiences by the time they graduate. High-quality statements of learning outcomes have several important characteristics. When formulating SLO statements, it is useful to design them to be S.M.A.R.T. – Specific, Measurable, Attainable/Appropriate, Results-Oriented, and Time-Bound.

- **Specific**: A clearly articulated and distinguishable set of knowledge, skills, values, or attitudes is identified. An SLO should express a single idea, even if it has multiple components. For example, "*Students will define the essential aspects of complex problems, investigate them, propose solutions, and evaluate the relative merits of alternative solutions*" is a strong statement of an SLO focused on problem-solving skills. Although there are several distinct actions packed in one statement, they are all part of a larger learning goal, they fit together under one umbrella, and can be taught and assessed collectively (Suskie, 2018).

- **Measurable**: Evidence of learning can be demonstrated, observed, and assessed. Avoid statements such as "*Students will learn, understand, appreciate, comprehend, be aware of, feel, or think*" and the like. When writing SLO statements, the recommendation is to use concrete action verbs that describe what students will be able to do in the cognitive and other domains. Proper use of action verbs helps instructors to think through and communicate to the students what will be learned and how it will be assessed.

- **Attainable/Appropriate**: The desired knowledge, skills, values, and attitudes can be achieved by a typical student through learning experiences in the program. For example, in order to demonstrate communicative fluency, it is reasonable to expect students at the bachelor's level to "*develop and present cogent, coherent and substantially error-free writing for communication to general and specialized audiences*", whereas students at the master's level may be expected to "*create sustained, coherent arguments or explanations summarizing his/her work or that of collaborators in two or more media or languages for both general and specialized audiences*" to demonstrate the same SLO but to a more advanced stage (DQP, 2014, p. 30).

- **Results-Oriented**: SLOs should reflect what students will have learned rather than what content will be taught or what teaching activities will take place in various courses and/or overall curriculum. Using the 'backward curriculum design' (Wiggins & McTighe, 1998) approach may help formulate results-oriented SLOs. First, identify which competencies students in your program should attain/learn by the time they graduate, then determine what assessment sources and tools (essay, oral presentation, thesis, rubric, etc.) will generate acceptable evidence of their learning of the said competencies, and finally, plan and design learning experiences and instruction that will best position the students to do well on those assignments.

- **Time-Bound**: Students should be able to master and competently demonstrate learning outcomes by a certain milestone. SLOs are oftentimes set to be achieved by the time students complete the entire program of study. In these cases, assessment of SLOs is tied to some culminating learning experience or product like a capstone project, thesis/dissertation, comprehensive exam, art exhibition, etc. However, many SLOs are achieved by the end of a specific course or a co-curricular experience (e.g., study abroad, internship, UROP, LLC).

Consider several examples below that illustrate SLO statements with various shortcomings and their improved versions.

Initial SLO Statement	Main Issue	Advanced SLO Statement
Students will produce high-quality research	Not **specific** enough (*what is high-quality research?*)	Upon completion of the doctoral program, students will design and conduct an original empirical research study using appropriate methodology and data analytic techniques
Student will show appreciation for visual art	Not **measurable** (*how is appreciation demonstrated?*)	Upon completion of ART3605, students will identify information relevant to the meaning of images and visual media, will identify their physical, technical and design components, and will situate them in cultural, social and historical contexts (ACRL, 2011)
Students will describe modern ethical issues in healthcare	Not **appropriate** for a Master's program (*simply describing may be too easy*)	Upon completion of the Master's program, students will articulate and challenge a tradition, assumption or prevailing practice within the healthcare field by raising and examining relevant ethical principles (p.30 in DQP, 2014)
Students will be taught statistical methods and reporting	Not student **results-oriented** (*what is being measured: teaching or learning?*)	Upon completion of the course of instruction, students will be able to explain application of complex statistical methods to technical and non-technical audiences and visualize results in an accessible manner (p.10 in ASA, 2014)
Students will deliver nursing care to patients	Not **time-bound** (*when is the skill mastered by students and assessed?*)	Upon completion of Professional Nursing Internship (NUR4945) capstone course, students will plan and provide patient-centered, empathic, and coordinated care that contributes to safe and high quality patient outcomes (CSUF School of Nursing)

Assessment Handbook: Contains detailed information about student learning and program outcomes assessment and provides guidelines for annual outcomes reporting.

One-on-one consultations: Email Dr. Galiya Tabulda (Director of the Institutional Performance and Assessment Office) at gtabulda@fsu.edu to schedule an assessment/IE consultation.