Stony Brook Curriculum Student Learning Outcomes (Archived Version)

The tables below provide the full list of student learning outcomes (SLOs) associated with each Stony Brook Curriculum (SBC) category.

DEMONSTRATE VERSATILITY

Explore and Understand the Fine and Performing Arts (ARTS)	**ARTS SLOs** 1. Develop an understanding of works of art and their practitioners through an examination of the works in the historical and cultural context in which the art was or is created. 2. Understand the materials, forms, and/or styles of art through study of arts theories and the works themselves. 3. Understand ideas, materials, technical skills, and forms of art in order to express oneself creatively through an artistic medium. 4. Develop tools of aesthetic discourse through contact with works of art – as well as through writings on art – related to its critical understanding, cultural placement, and appreciation. **Standards for ARTS** *Certified courses in the arts shall fulfill at least one of the four learning outcomes. Certified courses will devote significant time to the consideration of art and its principles, through historical, theoretical, technical and/or critical writings about art, through the examination of works of art, through the creation of art, or combinations thereof.*
Engage Global Issues (GLO)	**GLO SLOs** 1. Demonstrate knowledge and understanding of the interconnectedness of the world, past and present. 2. Demonstrate knowledge and understanding of a society or culture outside of the United States. **Standards for GLO** *A certified course shall demonstrate a sustained, disciplined engagement with a society or culture beyond the United States and/or an issue(s) that links world societies together. A significant portion of the course must address the diversity and interconnectedness of the world's societies and cultures.*

Address Problems Using Critical Analysis and the Methods of the Humanities (HUM)	**HUM SLOs** 1. Understand the major principles and concepts that form the basis of knowledge in the humanities. 2. Understand the theoretical concepts that undergird one or more of the humanities. 3. Develop an awareness of some of the key historical themes of one or more of the humanities. 4. Develop an awareness of the multi- or interdisciplinary nature of issues within the humanities. 5. Develop an awareness of the contexts (historical, social, geographical, moral) in which these issues emerged. 6. Develop the verbal and written skills to articulate valid arguments on these issues. **Standards for HUM** *Certified courses shall fulfill at least four of the learning outcomes.*
Communicate in a Human Language Other Than English (LANG)	**LANG SLOs** 1. Write, read, listen and speak with basic proficiency in at least one non-English language. 2. Demonstrate an understanding of the people and culture associated with that language. 3. Present coherent information and ideas in that language to listeners or readers about the people and culture of that language. **Standards for LANG** 1. *Certified language courses shall deliver instruction in basic writing, reading, listening and speaking and assess student performance in those areas.* 2. *A certified course shall require students to employ basic skills in gathering and presenting information in that language about the people and perspectives of that culture.* 3. *Assessment of student achievement will place no less than 30% of the credit on the quality of reading and writing.* 4. *Assessment of student achievement will place no less than 50% of the credit on the quality of the student's listening and speaking ability.* 5. *Computer languages do not satisfy this requirement.*

Master Quantitative Problem Solving (QPS)	**QPS SLOs** 1. Interpret and draw inferences from mathematical models such as formulas, graphs, tables, or schematics. 2. Represent mathematical information symbolically, visually, numerically, and verbally. 3. Employ quantitative methods such as algebra, geometry, calculus, or statistics to solve problems. 4. Estimate and check mathematical results for reasonableness. 5. Recognize the limits of mathematical and statistical methods. **Standards for QPS** 1. *A certified course shall teach a well-defined area of mathematics such as university-level geometry, statistics, or calculus. The course will address at least four of the above Outcomes.* 2. *MAP courses will not be considered for certification in Mastering Quantitative Problem Solving*
Understand, Observe, and Analyze Human Behavior and Societal Constructs (SBS)	**SBS SLOs** 1. Understand the major concepts and phenomena that form the basis of knowledge in the social sciences. 2. Understand methods of inquiry into the social world and the methods social and behavioral scientists use to explore social phenomena including observation, hypothesis development, measurement and data collection, experimentation, and the evaluation and application of evidence. 3. Understand various types of theory (e.g., behavioral, political, economic, linguistic) that organize predictions and evidence in the social sciences. 4. Skillfully interpret and form educated opinions on social science issues. **Standards for SBS** *Certified social science courses shall fulfill any two of the above outcomes and have a broad content in a specific area of social sciences.*

Study the Natural World (SNW)	**SNW SLOs** 1. Understand the methods scientists use to explore natural phenomena including observation, hypothesis development, measurement and data collection, experimentation, and evaluation of evidence. 2. Understand the natural world and the major principles and concepts that form the basis of knowledge in the natural sciences. 3. Assess scientific information and understand the application of scientific data, concepts, and models in the natural sciences. 4. Make informed decisions on contemporary issues involving scientific information. **Standards for SNW** *Certified natural science courses shall fulfill outcome 1 (understand the methods scientists use to explore natural phenomena including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence) and at least two of the remaining three outcomes and have a broad content in a specific area of the Natural World.*
Understand Technology (TECH)	**TECH SLOs** 1. Demonstrate an ability to apply technical tools and knowledge to practical systems and problem solving. 2. Design, understand, build, or analyze selected aspects of the human-made world. The "human-made world" is defined for this purpose as "artifacts of our surroundings that are conceived, designed, and/or constructed using technological tools and methods." **Standards for TECH** *Courses must satisfy both learning outcomes.*
Understand the Political, Economic, Social, and Cultural History of the United States (USA)	**USA SLOs** 1. Demonstrate knowledge and understanding of the rights and responsibilities of citizenship, and the workings of federal, state, and municipal governments in the United States. 2. Demonstrate knowledge and understanding of U.S. history and society. 3. Demonstrate knowledge of a subculture or relationships among subcultures within U.S. society. **Standards for USA** A certified course shall demonstrate a serious, disciplined engagement with political, economic, social, and/or cultural aspects of U.S. society, past or present. Such courses should address at least two of the learning outcomes.

Write Effectively in English (WRT)	**WRT SLOs** 1. Research a topic, develop an argument and organize supporting details. 2. Produce coherent texts within common college-level written forms. 3. Demonstrate the ability to revise and improve such texts. **Standards for WRT** 1. *Certified writing courses must deliver instruction and evaluate student performance for all of the learning outcomes listed above.* 2. *ESL courses will not be considered for certification as writing effectively in English.* 3. *Typically, courses that meet advanced learning outcomes in Write Effectively in English may be certified as WRTD, not as HFA+. See the section on "Prepare for Life-Long Learning" in this chapter.*

EXPLORE INTERCONNECTEDNESS

Accordion Item Title	Accordion Item Content
Understand Relationships between Science or Technology and the Arts, Humanities, or Social Sciences (STAS)	**STAS SLOs** 1. Apply concepts and tools drawn from any field of study in order to understand the links between science or technology and the arts, humanities or social sciences. 2. Synthesize quantitative and/or technical information and qualitative information to make informed judgments about the reciprocal relationship between science or technology and the arts, humanities or social sciences. **Standards for STAS** 1. *A certified course shall fulfill both learning outcomes. Certified courses will devote significant time to consideration of the consequences of science or technology for social, economic, ethical, moral, political, artistic, and/or other domains of experience.* 2. *Because of the inherent interdisciplinary nature of the STAS learning objectives, STAS courses may not be multi-certified.*

PURSUE DEEPER UNDERSTANDING

Apply Knowledge and Skills beyond the Classroom (Experiential Learning, EXP+)	**EXP+ SLOs** 1. Demonstrate interpersonal competency (e.g. teamwork, communication, collaboration, etc.), including relationships with faculty advisor(s), on-site supervisor(s)/ mentor(s), team members and/or the broader community that is impacted by the project. 2. Apply knowledge and skills gained through coursework to a real-world situation. 3. Appraise the personal, academic, and/or professional effects before, during, and after the applied learning experience through deep and sustained reflection. 4. Apply feedback on performance promptly and productively. **Standards for EXP+** *A certified course in EXP+ should satisfy all four learning outcomes.* *The Stony Brook experiential learning requirement follows national standards for experiential learning developed by the National Society for Experiential Education (NSEE).* 1. *Intention: All students and advisors must be clear why the student chose the particular experience to meet this General Education requirement. This includes a clear statement about the learning that is to take place and the knowledge that will result from it. Intention represents the purposefulness that enables experience to become knowledge and, as such, is deeper than the goals, objectives, and activities that define the experience.* 2. *Preparedness and Planning: Students must ensure that they enter the experience with sufficient foundation to support a successful experience. They must also focus from the earliest stages of the experience/program on the identified intentions, adhering to them as goals, objectives and activities are defined. The resulting plan should include those intentions and be referred to on a regular basis by all parties. At the same time, it should be flexible enough to allow for adaptations as the experience unfolds.* 3. *Authenticity: The experience must have a real world context and/or be useful and meaningful in reference to an applied setting or situation. This means that it should be designed in concert with those who will be affected by or use it, or in response to a real situation.* 4. *Reflection: Reflection is the element that transforms simple experience to a learning experience. For knowledge to be discovered and internalized the learner must test assumptions and hypotheses about the outcomes of decisions and actions taken, then weigh the outcomes against past learning and future implications. This reflective process is integral to all phases of experiential learning, from identifying intention and choosing the experience, to considering preconceptions and observing how they change as the experience unfolds. Reflection is also an essential tool for adjusting the experience and measuring outcomes.* 5. *Orientation and Training: For the full value of the experience to be accessible to both the learner and the learning facilitator(s), and to any involved organizational partners, it is essential that they be prepared with important background information about each other and about the context and environment in which the experience will operate. Once that baseline of knowledge is addressed, ongoing structured development opportunities should also be included to expand the learner's appreciation of the context and skill requirements of her/his work.* 6. *Monitoring and Continuous Improvement: Any learning activity will be dynamic and changing, and the parties involved all bear responsibility for ensuring that the experience, as it is in process, continues to provide the richest learning possible, while affirming the learner. It is important to have a feedback loop related to learning intentions and quality objectives and that the structure of the experience be sufficiently flexible to permit change in response to what that feedback suggests. While reflection*

	provides input for new hypotheses and knowledge based in documented experience, other strategies for observing progress against intentions and objectives should also be in place. Monitoring and continuous improvement represent the formative evaluation tools. 7. *Assessment and Evaluation: Outcomes and processes should be systematically documented with regard to initial intentions and quality outcomes. Assessment is a means to develop and refine the specific learning goals and quality objectives identified during the planning stages of the experience, while evaluation provides comprehensive data about the experiential process as a whole and whether it has met the intentions that suggested it.* 8. *Acknowledgment: Recognition of learning and impact occur throughout the experience by way of the reflective and monitoring processes and through reporting, documentation, and sharing of accomplishments. All parties to the experience should be included in the recognition of progress and accomplishment. Culminating documentation and celebration of learning and impact help provide closure and sustainability to the experience.*
Humanities and Fine Arts (HFA+)	**HFA+ SLO** 1. Students must use the skills expected from their Versatility courses to study and practice them in greater depth, with further study applied to the area in which they are certified. **Standards for HFA+** *Certified courses must expect students to practice the skills they learned in their Versatility courses in greater depth. These courses must have prerequisites from among the Versatility categories and will typically be at the 200-400 level.*
Social and Behavioral Sciences (SBS+)	**SBS+ SLO** 1. Students must use the skills expected from their Versatility courses to study and practice them in greater depth, with further study applied to the area in which they are certified. **Standards for SBS+** *Certified courses must expect students to practice the skills they learned in their Versatility courses in greater depth. These courses must have prerequisites from among the Versatility categories and will typically be at the 200-400 level.*
Science, Technology, Engineering, and Mathematics (STEM+)	**STEM+ SLO** 1. Students must use the skills expected from their Versatility courses to study and practice them in greater depth, with further study applied to the area in which they are certified. **Standards for STEM+** *Certified courses must expect students to practice the skills they learned in their Versatility courses in greater depth. These courses must have prerequisites from among the Versatility categories and will typically be at the 200-400 level.*

PREPARE FOR LIFE-LONG LEARNING

Practice and Respect Critical and Ethical Reasoning (CER)	**CER SLOs** 1. Demonstrate an ability to distinguish among the ethical principles guiding human behavior. 2. Apply ethical reasoning to a variety of situations and human experience. 3. Understand and differentiate ethical, legal, social justice, and political issues. **Standards for CER** *A certified course shall satisfy one of the three learning outcomes.*
Respect Diversity and Foster Inclusiveness (DIV)	**DIV SLOs** 1. Describe and analyze the impact of power and privilege on self and society in the context of diversity and inclusion. 2. Identify systematic barriers to equality and inclusiveness and discuss how those barriers and biases affect the perceptions of others. 3. Examine how human and cultural similarities and differences shape personal identities and influence structural and institutional inequities. 4. Critically reflect upon how one's own personal and cultural presuppositions affect one's values and relationships. **Standards for DIV** *Certified courses shall fulfill at least two of the four learning outcomes*.
Evaluate and Synthesize Researched Information (ESI)	**ESI SLOs** 1. Locate and organize information from a variety of appropriate sources. 2. Analyze the accuracy of information and the credibility of sources. 3. Determine the relevance of information. 4. Use information ethically and responsibly. **Standards for ESI** 1. *A certified course may be from any department and shall teach research skills and require students to employ methods to seek, manage and analyze information.* 2. *A certified course shall achieve all four learning outcomes.*

Speak Effectively before an Audience (SPK)	**SPK SLOs** 1. Research a topic, develop an oral argument and organize supporting details. 2. Deliver a proficient and substantial oral presentation for the intended audience using appropriate media. 3. Evaluate oral presentations of others according to specific criteria. **Standards for SPK** 1. *Courses or modules certified as providing oral communication practice must provide access to instruction in the methods of making a proficient oral presentation. Access might include referral to on-campus resources.* 2. *Certified oral communication experiences shall require students to make a substantial and graded oral presentation (e.g., 10-15 minutes) before a group.* 3. *Certified oral communication experiences shall have students evaluate other students' oral presentations using explicit criteria.* 4. *A certified experience shall achieve all three learning outcomes.* 5. *Although most programs will stipulate that the learning outcome will be completed in English, some programs could demonstrate that the requirement could be completed in an alternative language.*
Write Effectively within One's Discipline (WRTD)	**WRTD SLO** 1. Collect the most pertinent evidence, draw appropriate disciplinary inferences, organize effectively for one's intended audience, and write in a confident voice using correct grammar and punctuation. **Standards for WRTD** 1. *Produce written work congruent with the standards of one's discipline* 2. *Complete one certified course that reinforces writing skills in the major discipline OR submit a portfolio of at least 15 pages of written work in the discipline, as determined by the department and certification committee.* 3. *Although most programs will stipulate that the learning outcome will be completed in English, some programs could demonstrate that the requirement could be completed in an alternative language.*