Natural Sciences and Mathematics

Division Guidelines for Creating General Education (including LACC) Courses ***(DRAFT 2 with Corrections, 5/5/10)***

In order to be considered for Division of Natural Sciences and Mathematics General Education credit, course proposals should:

1. carry a lower-division designation (i.e., 100/200 level),
2. address one or more of WOU's General Education Learning Outcomes (provided below[A]),
3. align one or more of the proposed course's learning outcomes with one or more of the program, division and General Education learning outcomes (provided below[B])
4. be designed as either a general survey course or a focused introductory-level course that introduces students to the methods, practices and ways of knowing about the field, and
5. include an explanation of how proposed content of new or replacement courses aligns with
    a. existing courses within General Education / LACC sequences,
    b. within prefixes (i.e., academic areas),

NOTE: deleted item 5c from draft 1 "c. across academic areas in division"

General Education / Division / Program	Program / Learning Outcomes
General Education[A]	LEARNING OUTCOMES 1. Students will demonstrate effective critical thinking; 2. Students will demonstrate effective literacy and communication skills; 3. Students will demonstrate an ability to explore the world in integrative and synthetic ways through disciplinary study across the arts, sciences, and humanities; 4. Students will demonstrate a basic knowledge of natural, social, cultural, psychomotor, and value systems. 5. Students will demonstrate a capacity for meaningful self-reflection.
NSM[B]	Program Objectives: 1. To help students internalize and apply both the scientific method and major scientific and mathematical concepts and principles. 2. To enhance students' reasoning and problem-solving skills. 3. To improve students' individual and collaborative skills in preparation for the global scientific and mathematical challenges of the 21st century.
Biology[B]	Learning Outcomes: 1. Understand key concepts from the many disciplines within the biological sciences. 2. Engage in laboratory experimentation, data analysis and interpretation, and critical thinking at all course levels. 3. Have opportunities to augment their coursework experiences with advanced studies and research within areas of particular interest.
Chemistry[B]	Learning Outcomes Students will: 1. Develop competency in laboratory environments via laboratory coursework, research and practicum opportunities. 2. Develop an awareness of historical developments in chemistry and their impact on society. 3. Understand the current applications of chemical synthesis and analysis and their support of discovery in other scientific disciplines.
Earth Science[B]	Learning Outcomes 1. Demonstrate knowledge of the physical, chemical and biological processes operating in the Earth system. 2. Develop proficiency in using technology enriched methods to solve geologic problems and communicate results. 3. Gain experience in conducting inquiry based science in laboratory and field settings.
Physics[B]	Learning outcomes 1. Develop reasoning and problem solving skills as applied to scientific investigations. 2. Gain experience in combining graphical and numeric information to produce mathematical models. 3. Attain proficiency in physics theory and applications suitable for high school physics teaching.