**USO4 Rubric**

**Demonstrate competence in mathematical, scientific, and technological skills (APb).**

This USO focuses on the student’s ability to integrate multidisciplinary skills from the STEM fields into authentic real-world applications. The integration begins with demonstrating mastery of mathematical content (encompassing computation and reasoning), scientific inquiry, and technology. Students utilize and apply these integrative skills to solve complex problems in their academic disciplines.

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|  | **Generative** | **Mastery** | **Exemplary** | **Accomplished** | **Developing** | **Beginning** |
| *Math skills* | Student generates processes for using quantitative analysis of data from a particular academic discipline, to make thoughtful judgments and carefully qualified, insightful conclusions | Student uses quantitative analysis of data from a particular academic discipline, to make original judgments and carefully qualified, insightful conclusions | Student uses quantitative analysis of data from a particular academic discipline, to make thoughtful judgments and carefully qualified, insightful conclusions. | Student uses quantitative analysis of data from a particular academic discipline, to draw competent and appropriate conclusions. | Student uses quantitative analysis of data from a particular academic discipline, to make workmanlike (without inspiration or nuance, ordinary) judgments, or plausible conclusions. | Student uses quantitative analysis of data from a particular academic discipline to make tentative, basic judgments, though hesitant or uncertain about drawing conclusions. |
| *Science skills* | Student integrates the interdisciplinary ways in which science can be utilized to address a specific issue | Student justifies the ways in which science can be utilized to address a specific issue | Student compares and contrasts the ways in which science can be utilized to address a specific issue | Student interprets the ways in which science can be utilized to address a specific issue | Student utilizes basic processes in the scientific method | Student identifies the ways in which science can be utilized to address a specific issue |
| *Technology skills* | Student appraises the outcome of technology-oriented solutions within an academic discipline., argue for improvements, and predict future outcomes based on those improvements. | Student integrates diverse technologies to formulate a comprehensive solution to solve problems within an academic discipline. | Student creates new technology-oriented solutions to solve problems within an academic discipline. | Student deploys existing comprehensive technology-oriented solutions typical of an academic discipline. | Student defends the use of technology in the context of a specific problem typical of an academic discipline. | Student utilizes different types of technology typical of an academic discipline. |