.Fall 2024 Gen Ed: Hands-On Science (New Course)

Course

# General Catalog Information

\*\* Read before you begin \*\*

In order to meet the standard for SU’s Hands-on Science general education requirement, the course must meet the Code of Maryland Regulations (COMAR) standard of “One science course which shall be a laboratory course.”

1. **FILL IN** all required fields marked with an \*. You will not be able to launch the proposal without completing required fields. For all other fields, fill in only those for which a c hang e is being requested. Writing in N/A is not necessary.
2. **LAUNCH** proposal by clicking "Validate and Launch Approval Process" in the top left corner. Once you have launched this proposal, you will have a chance to edit the proposal before APPROVING it and sending it along in the approval process.
3. **APPROVE** proposal. Once you have made final edits after launching, you must approve the proposal to send it along to the next person in the approval process. The proposal will appear in your task list under the "My Proposals" tab, and you may easily view its progress at any time.

**CURRICULUM DEADLINES**

**March 1, 2023** - Submission Deadline for Fall 2024 Hands-On Science Courses

**Mid-December, 2023** - Proposal must be approved by the final committee in the workflow – the General Education Oversight Committee (GEOC) – by their last meeting in December 2023 to be implemented by fall 2024.

**First Date of Offering:** General Education designation changes will go into effect for the fall 2024 term.

**If you would like for the course to be offered (without Gen Ed designation) prior to fall 2024, indicate the term here:**

Spring 2024

**Will this impact a secondary education or P12 course / program?**

Yes No

**Will this impact a teacher education course / program?**

Yes No

**Requesting Department**

*IDIS and PACE courses should show Fulton School, and HONR courses should show Honors College. \*If the appropriate Requesting Department doesn't appear, please contact Melissa Boog or Jennifer Ellis in the Office of Academic Affairs before moving forward.*

**Course Type\***

*Choose the discipline that corresponds with the course's prefix. (e.g., FILM = Film)*

**Course Prefix Course Number**

**Course Title\***

**Course Title for GullNet (Limited to 30 Characters)**

**Course Description**

**# of Credits**

**Hours Per Week\***

**If # of credit exceeds hours per week, the** [**Course Credit Rationale**](https://www.salisbury.edu/administration/academic-affairs/ugrad-curriculum-committee/curriculum.aspx) **form must be included.**

**Staffing and Cost Implications**

*Discuss Staffing Implications and Additional Costs*

**Prerequisites**

**Corequisites**

**Major Prerequisites**

**Non-Major Prerequisites**

**Pre or Corequisites**

**Major Pre or Corequisites**

**Non-Major Pre or Corequisites**

**Recommended Prerequisites**

**Recommended Pre or Corequisites**

**May Not Receive Credit**

*List any courses for which students who take this course cannot earn credit. (Ex. If a course is renumbered, students may not earn credit for the prior numbered course and the new numbered course. OR If another course is so similar to this, students may not earn credit for both.)*

**Cross-Listed**

**Graduate Swing Equivalent**

**Activity Code**

**The rubric that will be used to evaluate this proposal can be found in MyClasses in the *General Education Revision: Ongoing Work* course under GEOC Standing Rules – Faculty Senate Approved Spring 2022 and Fall 2022.**

**Rationale - Rationale must include sound justification as to why this course meets the requirements for the Hands-On Science requirement.**

**PART I: Students will demonstrate the ability to complete hands-on science by making observations, understanding fundamental scientific design,**

**generating and analyzing data using quantitative tools, use abstract reasoning to interpret data and mathematical models or formula, test scientific hypotheses. Hands-on aspects of course design may include traditional laboratory-based experiences, field experiences, studio work, recitations, clinical application, or other appropriate experiences for the setting/discipline.**

**Considering the statement above, please respond to the three categories below.**

**Evidence of Student Engagement (150 word limit)**

**Assessment Types (150 word limit)\***

**Description (150 word limit)\***

**PART II: STUDENT LEARNING OUTCOMES**

Each Student Learning Outcome (SLO) assigned to the Hands-On Science requirement is listed below. For each, speak to how you will teach to and assess the individual SLO, referencing any attached materials (syllabi, assignment prompts, example activity directions, etc.). **There is a 150 word limit for each response**. If more information regarding the SLO is needed, details can be found in Appendix C of the online catalog.

Note that responses to some are required and others are optional.

**#1 QUANTITATIVE REASONING**

**How will students demonstrate that they have achieved the QUANTITATIVE REASONING Student Learning Outcome (Check all that apply.):**

Homework Quiz/Exam

Lab Report/Essay

Research Paper/Project/Portfolio Case Study

Oral Presentation/Performance

Other (Included in the description below)

**Required - Students will be able to interpret models and/or solve quantitative problems from different contexts with real world relevance.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Required - Students will be able to create reasonable arguments supported by quantitative evidence (e.g., using words, tables, graphs, and/or mathematical equations).** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Required - Students will be able to communicate reasonable arguments supported by quantitative evidence (e.g., using words, tables, graphs, and/or mathematical equations).** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Optional - Students will be able to demonstrate a variety of mathematical principles and the methods of data analysis.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Optional - Students will be able to students will apply or demonstrate the use of quantitative analyses in a variety of different contexts to construct explanations and/or solve problems.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**#2 SCIENTIFIC REASONING**

**How will students demonstrate that they have achieved the SCIENTIFIC REASONING Student Learning Outcome (Check all that apply.): \***

Homework Quiz/Exam

Lab Report/Essay

Research Paper/Project/Portfolio Case Study

Oral Presentation/Performance

Other (Included in the description below)

**Required - Students will be able to identify and use empirical evidence to describe/explain natural phenomena through application of a scientific method.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description\***

**Required - Students will be able to identify and use empirical evidence to p redict natural phenomena through application of a scientific method**. Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description\***

**Required - Students will be able to use scientific principles to desig n strategies to answer open-ended questions.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Required - Students will be able to use scientific principles to evaluate strategies to answer open-ended questions.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Required - Students will be able to use scientific principles to i mplement strategies to answer open-ended questions**. Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Optional - Students will be able to critically evaluate scientific arguments and identify the limits of scientific knowledge.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Optional - Students will be able to explore complex questions and identify how they impact or are impacted by external issues (political, economic, or ethical).** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Optional - Students will be able to solve or demonstrate resolutions to complex questions or problems requiring the application of scientific concepts**. Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Optional - Students will be able to communicate scientific ideas effectively**. Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**#3 KNOWLEDGE OF THE PHYSICAL WORLD**

**How will students demonstrate that they have achieved the KNOWLEDGE OF THE PHYSICAL WORLD Student Learning Outcome (Check all that apply.):**

Homework Quiz/Exam

Lab Report/Essay

Research Paper/Project/Portfolio Case Study

Oral Presentation/Performance

Other (Included in the description below)

**Required - Students will be able to describe some of the major concepts in science to explain natural phenomena.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement\* Assessment Types\***

**Description**

**Required - Students will be able to evaluate the quality of scientific information on the basis of methods used to generate it.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Required - Students will be able to use qualitative and/or quantitative analyses to draw inferences or conclusions from data.** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

**Optional - Students will be able to explore complex questions and identify how they impact or are impacted by external issues (political, economic, or ethical).** Track the activities and assessments related to this specific component of the SLO, referencing any attached materials.

**Evidence of Student Engagement Assessment Types**

**Description**

## IMPACT

**Impacted Programs:** List all majors/programs, concentrations, tracks or minors for which this course will be required or will be an option. **NOTE:**  Change to Minor Proposals

and Chang e to Major, Progr am or Track Proposals are required if this course will be added as a *requirement* or to a list of preset electives; those proposals should be initiated by the department that houses the major or minor.

**Impacted Majors/Programs**

## Attachments and Acknowledgments

**Confirm**

Click here to confirm that a rationale, syllabus, and request for a resource analysis has been sent to your Library Liaison.

**Attached**

A detailed course syllabus that includes the Course SLOs, the General Education Designation, the General Education SLOs. At least two example assignments.

If applicable, detailed assessment tools, materials, and/or reports related to the Hands-on Science requirement.

**Acknowledge**

I understand that this course is subject to institution-wide general education assessment.

I acknowledge that new Change to Minor Proposals and/or Change to Major, Program or Track Proposals are required if this course will be added as a requirement or to a list of preset electives.