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**N2: Natural Science (with Lab) -- Catamount Core Approval Supplemental Information Form**

Purpose and Intent: To provide supplemental information relevant to the review of proposed courses for designation N2 and inclusion in UVM’s Catamount Core curriculum.

The Submission Process and Approval Criteria, as well as the Rubric that the Catamount Core Curriculum Committee will use to review this proposal, can be found on the following pages of this document.

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| With a well-developed syllabus, this form should take approximately 15-20 minutes to complete. |

To assist students in understanding how courses in each Catamount Core category contribute to UVM’s general education program, please include the following language in a prominent location in your syllabus (e.g. after the course description):

**N2: Natural Science (with Lab)**

In natural sciences courses, students become familiar with scientific thought, observation, experimentation, and formal hypothesis testing. They develop the skills necessary to make informed judgments about scientific information and arguments related to the natural world. Students also gain the ability to assess the impacts of our expanding scientific knowledge and technology on the diversity of life on Earth, and the quality of life for our own species. All courses provide experiences with the methods of scientific inquiry used to develop new knowledge about the natural world. N2 courses include a laboratory component.

*A separate supplement form template is available for N1 (non-laboratory) course designation on the General Education website.*

**Course Information**

|  |  |
| --- | --- |
| **Course Number:** |  |
| **Course Title:** |  |
| **Name of Faculty Member:** |  |
| **Email Address:** |  |

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| **Please indicate if this course presently meets any of the current General Education requirements listed here (check all that apply):** | \_\_\_\_D1 \_\_\_\_D2 \_\_\_\_FWIL \_\_\_\_QR \_\_\_\_SU |

[v. 2.0, 01/2023]

**Submission Process:**

The overall purpose of the submission process for all Catamount Core requirements is to maintain the integrity of the general education curriculum at UVM and to ensure that approved courses maintain alignment with the learning outcomes for the corresponding Catamount Core category. A copy of the evaluation rubric used by the review committee is provided at the very end of this form. The review process can result in one of three outcomes:

1. Approval (the course will be assigned the requested Catamount Core designation for a 5 year-period)
2. Revisions requested (the review committee may ask for changes to be made to the course or for additional information prior to approval)
3. Rejection (the course as currently constructed and/or presented in the submission materials does not meet the approval criteria designation)

The committee needs both a syllabus, and detailed information about how a course addresses the N1/N2 outcomes in order to complete its review. Information about how the outcomes are addressed can be provided via either a brief narrative *or* detailed information in the outcomes chart below. You may choose to include both a narrative and the outcomes chart if that is helpful in providing the committee with necessary information:

1. A sample course syllabus *that includes a list of key readings and assignments* as well as the required description of the N2 category provided above, as well as listing the specific N2 outcomes your course meets;

PLUS, either a brief narrative or the completed outcomes chart, or both. Please provide specific examples of course activities and readings in your narrative or learning outcomes rubric, so that it is clear to the review committee how your course meets the course approval criteria:

1. A brief narrative (approximately one single-spaced page) that addresses the following:

	1. Briefly describe how the course meets the N2 criteria.
	2. If not including the outcomes chart below, briefly summarize relevant topics/and learning activities and how and where students’ achievement of the outcomes will be assessed (e.g. research paper; creative work; exam question; presentation).
	3. Any other contextual information that can assist the committee in its review.
2. The student learning outcomes chart provided below, filled out for the relevant learning outcomes. Indicate for each chosen student learning outcome: activities and topics that will support their learning in this area; and the means by which student achievement of each outcome will be assessed (e.g. research paper; creative work; exam question; presentation). Information can be provided in bullet form, but should include substantive information on both topics/activities and assessment.

**N2: Natural Science (with Lab) -- Course Approval Criteria:**

N2 courses must meet *all six* of the following:

1. Offer a total of at least three credits integrating scientific theory and practice, typically combining a lecture component and a lab component;
2. Promote the observation of natural systems as a way of knowing, including the analysis of complex phenomena by isolating and studying their components in the field or under controlled conditions;
3. Emphasize the process of generating working hypotheses based on both qualitative and quantifiable observations and present the evolution of hypotheses into theories and models that account for observable natural phenomena; and
4. Illustrate the use of appropriate theories and models to predict change in natural systems over time.
5. Have an experiential learning component dedicated to training students in the practice of isolating and studying natural phenomena in the field or under controlled conditions; and
6. Engage students in, and assess their understanding of, the scientific method through practical and written work.

In addition, the course must address and assess student learning outcomes listed below.

**Student Learning Outcomes:**

After completing an N2 course, students will be able to:

1. Demonstrate familiarity with scientific thought, observation, analysis, experimentation, and formal hypothesis testing in relation to the general field or topic of the course.
2. As appropriate to the level and field of the course, make informed judgments about scientific information and arguments related to the natural world.
3. As appropriate to the level and field of the course, use appropriate theories and models to predict change in natural systems over time.
4. Demonstrate understanding of the scientific method through practical and written work.

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| **N2 Student Learning Outcomes**  | **Activities/Topics** | **Assessment** |
| Demonstrate familiarity with scientific thought, observation, analysis, experimentation, and formal hypothesis testing in relation to the general field or topic of the course. |  |  |
| As appropriate to the level and field of the course, make informed judgments about scientific information and arguments related to the natural world. |  |  |
| As appropriate to the level and field of the course, use appropriate theories and models to predict change in natural systems over time. |  |  |
| Demonstrate understanding of the scientific method through practical and written work. |  |  |