GENERAL EDUCATION COMMITTEE

REPORT TO

THE ACADEMIC SENATE

GE-005-256

New GE course proposal:

Biology 1030 – Beyond the Needle, Vaccine Science, Trust, and Public Health
New GE Area 5B (Biological Sciences)

General Education Committee	Date: 2/11/2026
Executive Committee Received and Forwarded	Date: 2/18/2026
Academic Senate	Date: 2/25/2026 First Reading
	3/18/2026 Second Reading

Background

How the immune system works and how vaccines can protect against various diseases. Vaccines throughout history, different types, their different uses, how they are tested, and how to assess the risk-benefit ratio of vaccines. The ethics of vaccines, vaccine testing, and vaccine mandates will also be discussed. Controversies will be addressed directly, with an emphasis on fostering respectful, informed communication appropriate for this topic.

1. Articulate the principle of immunological memory and recall, identify and describe the function of cells and proteins that confer protection after vaccination and how we measure them.
2. Describe and give examples of the components of vaccines and principles of their effectiveness
3. Describe different technologies that have been used to vaccinate throughout history, and evaluate their efficacy against different pathogens
4. Describe the contribution of numerous cultural traditions to observations of immunity and vaccine innovation
5. Describe the historical and contemporary systems used for testing vaccines, discuss the ethical considerations, evaluate the information gained from these tests
6. Quantify and communicate about the risk benefit ratio of vaccines to various groups in society
7. Gain tools and practice for explaining mechanism, formulation, and benefit/risk profile about vaccines to your peers, friends, and families.
8. Find answers about the mechanisms, formulations, and benefit/ risk profile of vaccines on your own, critically evaluate information from the internet, and demonstrate that you can continue to learn about vaccines throughout your lives

II.A Oral Communication (OC): Students will express their ideas through acts of speech with an awareness of audience, purpose, and context.
Students will engage in discussion throughout class with teams, and then the instructor will moderate a class-wide discussion based on ideas from the teams discussion. A substantial portion of the course grade is based on class participation by contributions to these discussions. Students will practice explaining things about vaccines to different audiences. Students will also give a final class presentation about a vaccine of their choice.

II.B. Written Communication (WC): Students will express their ideas through the written word with an awareness of audience, purpose, and form.
Students will write short answer responses to midterm questions, which we will practice with during classtime. Students will be asked to explain concepts covered in class to their peers as well as to a lay audience or family members, and to critique and evaluate AI responses by checking references.

II.C. Critical Thinking (CT): Students will engage in the logical process of inquiry to analyze information from multiple perspectives to develop reasoned arguments.

Students will learn the language of vaccine science and where to locate reliable information so that they can think critically about messaging around vaccines, which comes from many different perspectives. Students will discuss in class, in their final projects, and in exam questions, their analysis of information about vaccines.

II.D. Quantitative Literacy (QL): Students will use quantitative information to draw inferences and communicate informed arguments.
Students will locate, discuss, and write about the risk-benefit ratio of vaccines and how to assess vaccine effectiveness in class, in midterms, and on the final project.

II.E. Information Literacy (IL): Students will responsibly identify, locate, and critically evaluate the array of information sources and voices necessary to engage in sound inquiry.
Students will find, discuss, and write about the history and contributions to vaccine innovation from various cultural traditions, and how information about vaccines is communicated. This will be assessed through in class discussion, exams, and final presentation.

II.F. Civic Literacy (CL): Students will apply civic knowledge, associated with historical structures of power, to self-discovery and responsibility to the community.
Students will locate, discuss, and write about vaccine history, testing, access, and herd immunity for vulnerable individuals in a way that is civil, informed, and respectful to different cultures. This will be assessed through in class discussion, exams, and final presentation.

II.G. Intercultural Engagement (IE): Students will integrate knowledge and relationships reflective of the diversity of human experience and forms of expression
Students will locate, discuss, and write about vaccine history, testing, access, and herd immunity for vulnerable individuals in a way that is civil, informed, and respectful to different cultures. This will be assessed through in class discussion, exams, and final presentation.

All sections will be the same and follow the attached syllabus. Assessments are aligned with GE program expectations (SLOs) described above. The course is only permitted to be taught by an Immunology/ Microbiology PhD.

GE subarea 5B:
o Courses in Area 5B will allow students to develop knowledge of scientific theories, concepts, and data about living systems. Students will achieve an understanding and appreciation of scientific principles and the scientific method, as well as the potential limits of scientific endeavors and the value systems and ethics associated with human inquiry. This area will also require quantitative and critical reasoning skills. Courses in Area 5B will be investigative and not purely descriptive or historical. Where applicable, scientific contributions from various cultures of the world will be included.

Students will learn about immunology clinical trials and investigate the components, mechanism of action, correlates of protection, and actual protection of a vaccine of their choice using resources learned in class. We will also discuss the limits of vaccine testing based on ethical considerations. They will consider the contribution of different individuals and groups to the innovation, creation and testing of the vaccine, and communicate about its effectiveness and risks to different types of individuals.

o GE-SLOs: Quantitative Literacy and Information Literacy
Students will learn how to find results of clinical trails and other data to calculate a risk benefit ratio for vaccines. Students will learn how to discern different sources of informaiton and evaluate them for reliability. Students will critique AI generated answers and vet the resources.

Resources Consulted

The BIO department provided both an ECO and example syllabus for the course, uploaded to Curriculog.

On November 26, 2025, General Education Committee sent out a solicitation email to the following constituencies:

- Department chairs
- Deans and associate deans

We asked to provide input via online survey to ensure that new GE course proposals aligned with the existing GE policy, including learning outcomes and concerns surrounding expertise. Responses were collected through mid-December. GE Committee received **no feedback** about this course.

Discussion

GE Committee received this referral on November 13, 2025. This course is being evaluated to ensure compliance with CPP's General Education Policy (GE-001-245), passed by the Senate in 2024.

This course is applying for **GE Area 5B: Biological Sciences**. In addition to meeting the core subject matter requirements for this area, new courses must include the learning outcomes **Quantitative Literacy** and **Information Literacy**, along with meaningful assessment of those outcomes in both the ECO and the syllabus. This course does not carry a laboratory component.

This course meets the requirements of GE Area 5B by centering the scientific study of immunology and vaccination, engaging students with biological theories, empirical data, and the functioning of living systems. Students apply the scientific method to evaluate vaccine development, testing, and effectiveness while examining the ethical dimensions and limits of scientific inquiry in public health.

The proposal meets the requisite elements of the subject matter in this area. The committee felt that this was a strong proposal. However, the proposal indicates alignment with all seven GE Student Learning Outcomes (SLOs), which seems difficult to justify in practice. Departments are free to assess whatever learning outcomes they feel appropriate. However, assessing Oral Communication and Written Communication through the types of assignments described, such as class participation or short midterm responses, is unlikely to meet university expectations for assessable artifacts.

Overall, the committee recommends focusing on the required SLOs for GE Area 5B: Quantitative Literacy and Information Literacy. Their inclusion of Critical Thinking may also be appropriate, but it is up to the department to decide whether to include this optional third learning outcome.

Recommendation

On February 11, 2026, the GE Committee voted 11-0-0-0 (Conditional Accept – Revise and Resubmit – Reject – Abstain) to **conditionally accept** this proposal. Two members were absent.

The department was given brief notes to revise their proposal in a conditional acceptance. On March 2, 2026, the department submitted revisions and only included Critical Thinking, Quantitative Reasoning, and Information Literacy for its chosen GE learning outcomes. In addition, they have also included the copy of the GE Meaning and Purpose Statement. This course is consistent with CPP GE policy and should be accepted.