(in place 2026)

NECHE Assessment E1A Form | Institution Name: Boston College

General Information

1 Program Name: Biology Department Natural Science Core Courses

2 Program's Assessment Contact

Name: Heather Olins

Email: olins@bc.edu

3 Unit/Department/Program Attributes – *indicate with an "X"*

x	Academic/curricular unit/department/program
	Co-curricular (student affairs-, mission and ministry-related) unit/department/program
	Competency-based education program
	Distance education program
	Program is managed by contractual arrangement

4 Date of last program review: January 2025 (Biology Department external review)

5 Date of next expected program review: unknown

6 Did your program engage in any assessment activities during academic year 2024-2025? – *indicate with an "X"*

x	Yes
	No

(in place 2026)

7 Degree Level Being Assessed (if applicable) – *indicate with an "X"*

	Associate's degree
	Certificate program
x	Bachelor's degree
	Master's degree
	Doctoral degree

8 Where are the learning outcomes published? (mark all that apply) – *indicate with an "X"*

	Catalog
x	Syllabus
x	Website
	Curriculum map

9 Which learning outcome(s) was assessed during academic year 2024-25?

For this year's report, the syllabi of all Biology courses that satisfy the Natural Science Core requirement were examined to determine how learning outcomes are communicated, and the extent to which presented learning outcomes align with any of the Core learning objectives listed on the Core website (here, and included as Table 1). The Core Learning Objectives that are most relevant to biology courses, and therefore might be expected to appear in these syllabi, are the following:

1. Demonstrate the critical, mathematical, informational, analytic, expressive, and creative skills that are essential tools of the educated person well-prepared for a meaningful life and vocation.
2. Understand the major ideas and methods of inquiry of the scholarly disciplines that comprise the university and be able to use those methods of inquiry as beginning practitioners to address complex contemporary problems.
8. Be prepared and disposed to use their talents and education as engaged global citizens and responsible leaders in service of the common good.

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Assessment Information

10 What type(s) of evidence were gathered to assess the outcome? (mark all that apply) – *indicate with an "X"*

	Artistic exhibition/performance
	Assignment/exam/paper completed as part of regular coursework (i.e., an embedded
	Capstone course work product
	Course evaluation question(s)
	Exam created by an external organization (e.g., professional association for licensure)
	Exit exam created by the unit/program
	Focus groups/interviews with alumni
	Focus groups/interviews with current students
	IRB-approved research project
	Oral performance (oral defense, oral presentation, conference presentation)
	Portfolio of student work
	Publication or grant proposal (prepared, not dependent upon acceptance)
	Qualifying or comprehensive exam (typically applicable to graduate level programs)
	Reflection exercise engaged in by student (journal, assignment, discussion session)
	Survey of alumni
	Survey of current students
	Supervisor or employer evaluation of student performance outside of the classroom
	Thesis or dissertation
x	Other

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11 How was the evidence reviewed/analyzed? (mark all that apply) – *indicate with an "X"*

	Compiled narrative results (e.g., interview, focus group, or open-ended data)
	Compiled survey results
	BC's Institutional Research office analyzed and supplied the evidence
	External organization responsible for evidence (e.g., a licensing exam organization)
	Used a rubric or scoring guide
x	Used professional judgment (i.e., no rubric or scoring guide was used)
	Review/analysis is pending
	Other

12 Who took part in assessing the evidence? (mark all that apply) – *indicate with an "X"*

x	Full-time faculty
	Part-time/Adjunct faculty
	Current students
	Employers and/or Advisory Boards
	Deans/Associate Deans
	Unit/Program-based Curriculum Committee
	Unit/Program-based Assessment Committee

(in place 2026)

13 How will the assessment results/findings be used? (mark all that apply) – *indicate with an "X"*

	Assessment procedure changes (e.g., changes to learning outcomes, rubrics)
	Course changes (e.g., changes to course content, assignments, pedagogy)
	Program changes (e.g., structure of retreat or volunteer program)
	Program policy changes
	Students' out-of-class experience changes (e.g., changes to advising, career workshops)
	Assessment results indicate that no actions are needed because students attained the outcome
x	Pending – we are not yet sure how the assessment results will be used

14 Please describe what was yielded from the assessment in terms of how students attained/achieved the learning outcome(s). That is, given the interpretation of the results/findings, what were the major takeaways regarding student learning?

None of the syllabi examined in this analysis were found to explicitly reference the Core Curriculum Learning Outcomes (LOs, Table 1), but it is likely that all of the courses address Core Learning Outcomes 1 and 2 through the course content. Table 2 summarizes the results of this analysis. All but one syllabi list some version of course learning outcomes, thought they are referred to as objectives, outcomes, or goals in different syllabi. Some course LO lists focus solely on course content, while others reference core-relevant complex problems, societal wellbeing, or human flourishing. In some cases, while the LOs are limited to content, the course descriptions indicate some broader alignment with the Core LOs.

Moving forward, I plan to communicate with the instructors of these courses to make sure they 1) are aware that their course satisfies the natural science core, 2) inquire if they provide relevant information to their students about Core LOs beyond the syllabus (during class, or in the course website, for example), and 3) to encourage instructors to consider communicating more clearly to students which Core LOs their course connects with and the ways in which their course will address these LOs.

Table 1. Boston College Core Curriculum Learning Outcomes, reproduced from Core website.

LO#	LO description
1	Demonstrate the critical, mathematical, informational, analytic, expressive, and creative skills that are essential tools of the educated person well-prepared for a meaningful life and vocation.
2	Understand the major ideas and methods of inquiry of the scholarly disciplines that comprise the university and be able to use those methods of inquiry as beginning practitioners to address complex contemporary problems.

3	Be able to identify and articulate the strengths and limitations of the disciplines and the relationship of the disciplines to one another, and demonstrate an understanding of the breadth and diversity of human knowledge as well as its openness to integration in more comprehensive wholes.
4	Be conversant with and able to discuss intelligently enduring questions and issues that are fundamental to human inquiry and that have shaped the traditions from which the university has emerged.
5	Demonstrate the ability to apply more than one disciplinary perspective to the same enduring question or complex contemporary problem.
6	Be familiar with the scholarly exploration of religious faith and understand how faith and reason are related in the search for truth.
7	Demonstrate the ability to examine their values and experiences and integrate what they learn with the principles that guide their lives.
8	Be prepared and disposed to use their talents and education as engaged global citizens and responsible leaders in service of the common good.

Table 2. Core LO alignment of Biology courses in academic year '24-'25 satisfying Natural Science Core requirement

Course Number	**Semester**	**Course Name**	**Instructor**	**Learning Objectives Listed in Syllabus**	**References to Core Learning Outcomes?**	**Core LOs that course likely addresses**
BIOL1210.01	Fall 2024	Teaching the Biosphere	Laura Hake	None listed, but course description includes some	Yes. "you'll be helping students discover their path to living authentically and in conscious alignment with our living Earth." Seems very core-aligned.	1,2,4,7,8
BIOL1441.01	Spring 2025	Sustaining the Biosphere	Laura Hake	Yes (Goals)	Yes. All generally about being more human. In particular, "you might come to experience what it means to be fully alive, fully human, fully yourself." Does not list a Core LO word for word.	1,2,4,7,8
BIOL1702.01	Fall 2024	Human Biology and Disease	James Yopp	Yes (Course Goals)	Yes. " Acquire a level of biological literacy which complements the need for understanding the biological issues confronting today's societies, and the globe." seems particularly relevant to core LOs.	1,2,8
BIOL2000.01	Fall 2024	Molecules and Cells	Laura Hake	Mentions LOs posted to Canvas	Yes. Course description mentions human thriving. "In order for human society to thrive well into the future, we need to recognize our intimate interconnection with Earth. Once we recognize this, we can embrace our responsibility to care for our precious planet. One path to deepening our understanding comes through continued exploration of the myriad forms and details of life on Earth, from the inner workings of the tiniest microorganisms to the impact of increased atmospheric carbon on ecosystems."	1,2,8
BIOL2000.02	Fall 2024	Molecules and Cells	Danielle Taghian	Yes (Course Learning Goals)	Yes. Course description discusses human wellbeing. "Our prospects for long-term success as a species and our ability to maintain a livable biosphere, achieving sustainability, will depend on the continuing growth of our understanding of biological systems." Additional LOs are core-relevant "1) Demonstrate an increased awareness of and interest in biology from molecules to cells. 3) Develop study and group work skills that will facilitate your learning in college and beyond. 4) Address problems using scientific reasoning and process."	1,2,8

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BIOL2010	Fall 2024	Ecology and Evolution	Heather Olins	Yes (By the end of the course you will…)	Yes. Course description connects to Core LOs “Being an informed citizen of the planet increasingly requires ecological and evolutionary knowledge. This course will enable you to make informed decisions regarding social issues including climate change, overpopulation, food and farming practices, the spread of disease, and resource utilization and extraction.” Core-relevant LO “Apply knowledge of ecology and evolution to modern threats to biodiversity such climate change, habitat degradation, pollution, invasive species, and overexploitation.”	1,2,8
BIOL2010	Spring 2025	Ecology and Evolution	Jeffrey DaCosta	Yes (By the end of the course you will be able to:)	Yes. Introductory statement “During the course, you will increase your understanding of the scientific method, master the basic language and topics of ecology and evolution, and learn about environmental issues critical to modern society such as global climate change and biodiversity loss.” aligns with core LOs as do the following “• Apply knowledge of ecology and evolution to modern threats to biodiversity. • Interpret these themes through the lens of current global climate change.”	1,2,8
BIOL1300	Fall 2024	Anatomy and Physiology (I)	Devin Mott	None listed	No clear connection to Core LOs beyond content	1,2
BIOL1320	Spring 2025	Anatomy and Physiology (II)	Defin Mott	Yes (Learning Outcomes)	No clear connection to Core LOs beyond content	1,2
BIOL2000	Spring 2025	Molecules and Cells	Rebecca Dunn	Yes (Course goals)	No clear connection to Core LOs beyond content	1,2
BIOL2000	Spring 2025	Molecules and Cells	Maitreyi Das	Yes (Course Goals)	No clear connection to Core LOs beyond content	1,2
BIOL1100	Fall 2024	General Biology	A. T. Annunziato / Thomas Seyfried	None listed	Syllabi is only a topic schedule	1,2