

College Program Goals

Program: Biology major

	Goals	Objectives	Data	Analysis	Feedback
1	Biology goal 1-breadth and depth in major.	1. successful completion of two semesters of General Biology. 2. successful completion of upper division BIO course distribution requirement (at least one course in each of the areas: cell/molecular,	for 1: grades in BIO 211 and BIO 212. for 2: analysis of which upper division Biology courses were taken, and grades in those courses.	Senior checks; senior exit exam.	1. nearly 100% of Bio majors have grades of "C" or better in BIO 211/212 2. analysis of the senior exit exams over several years indicates that most Bio majors are much stronger in one area of Biology than in the other two.
2	Biology goal 2- basic understanding of other natural sciences and math	QPA of 2.0 in Gen Chem (two semesters), Orgo (two semesters), Gen Physics (2 semesters), and	grades in support courses	done during senior checks	roughly 97% of Biology majors have QPA > 2.0 in these support courses; 3% are below 2.0
3	Biology goal 3- skills in the investigative aspects of Biology	1. understanding and application of the scientific method 2. ability to formulate and design tests for hypotheses 3. proper use of scientific equipment	for 1-3: successful completion ("C" or better) in 6 semesters of Biology labs for 1&2 only: senior exit exam	senior checks; response to specific questions on senior exit exam	we estimate that over 90% of our majors are competent or proficient in all 3 areas; the remaining are deficient in one of the objectives (most commonly #3)

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4	Biology goal 4- ability to analyze scientific literature and demonstrate an understanding of the key theoretical concepts in the major subdisciplines of Biology	1. successful completion of two 500-level Biology courses (that heavily use primary scientific literature) 2. successful completion of upper division BIO course distribution requirement (at least one course in each of the areas: cell/molecular,	grades in Biology courses; senior exit exam	senior checks; response to specific questions on senior exit exam	This is a very poorly defined goal, and as such assessment is problematic. We estimate that roughly 60% of our seniors are proficient or competent in objective 1, and 90% are proficient or competent in objective 2.
5	Biology goal 5-formulate reasoned responses to moral and ethical issues with a biological dimension	students should be able to formulate reasoned responses to moral and ethical issues with a biological dimension	only anecdotal, and only in a small subset of courses	none	assessing this goal was one of the original reasons for designing a senior seminar course. Unfortunately, with 100 majors/yr, we simply do not have the staffing
6	Biology goal 6- scientific communication, statistical analysis of results	1. successful completion of certain courses that have a written or oral presentation component 2. successful completion of certain courses that	senior checks; senior exit exam; analysis of writing samples; performance on in-class presentations	senior checks and senior exit exam	we estimate that roughly 80% of our students are proficient or competent in both areas; the other 20% are deficient in one

Changes

The Department has approved changes to the major to address the breadth issue (for example, going to three semester of Gen Bio), but does not have resources to make these changes at present time. We have also decided to start administering the national Biology Major Field Exam to our seniors on an every other year basis so we can benchmark against national data. We hope to start this process in May 2011, but it is expensive (\$30/test x 100 seniors).

none planned

we have discussed capping lab sizes so that students would not have to work in groups (this would allow us to better assess these objectives on a per-student basis), but do not have the staffing or budgetary resources at this time to make this change.

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We have discussed changing our 500-level courses to incorporate more primary scientific literature, as well as adding a senior seminar course. The department decided to wait until the new core curriculum is in place before embarking on these changes, however.

We have decided to wait until the new core curriculum is in place before revisiting this goal and our assessment of it.

none planned, but several ideas are under consideration

University and College Assessment Goals

University Goals	1. A Creighton graduate will demonstrate disciplinary competence and/or professional proficiency.	2. A Creighton graduate will demonstrate critical thinking skills.	3. A Creighton graduate will demonstrate a disposition to service and engaged civic responsibility.	4. A Creighton graduate will demonstrate an ability to communicate clearly and effectively in written and oral forms.	5. A Creighton graduate will demonstrate a disposition toward life long learning.	6. A Creighton graduate will demonstrate cultural competence, enabling effective work across-racial, ethnic and cultural lines.	
College Goals	1. Communicate clearly and effectively in written, spoken, mathematical, and artistic languages.	2. Think critically about information, assumptions, and arguments found in multiple forms of academic and cultural discourse.	3. Integrate broad and diverse learning with at least one individually chosen discipline or professional field.	4. Know the Christian, Catholic, and Jesuit intellectual traditions in the context of historical, cultural and spiritual concerns.	5. Apply a reasoned approach to effective decision-making according to sound and coherent ethical principles.	6. Relate an active commitment to learning, truth, and justice to a life of service and to the development of the global Community.	7. (Demonstrate an understanding of the diversity of human identities and cultures in the United States and around the world)
Program Goals 1			<u>Biology goal 1</u> - Biology majors should possess breadth and depth of knowledge in the field of				
Program Goals 2		<u>Biology goal 2</u> - Biology majors should have a basic understanding of other natural sciences and mathematics, so as not to be narrowly limited in their approach to biological phenomena.	<u>Biology goal 2</u> - Biology majors should have a basic understanding of other natural sciences and mathematics, so as not to be narrowly limited in their approach to biological phenomena.				
Program Goals 3		<u>Biology goal 3</u> - Biology majors should have developed skills in the investigative aspects of biology, including the scientific method, hypothesis formulation/testing, and the	<u>Biology goal 3</u> - Biology majors should have developed skills in the investigative aspects of biology, including the scientific method, hypothesis formulation/testing, and the				
Program Goals 4		<u>Biology goal 4</u> - Biology majors should have an understanding of key theoretical concepts in the major subdisciplines of Biology and the ability to evaluate original scientific	<u>Biology goal 4</u> - Biology majors should have an understanding of key theoretical concepts in the major subdisciplines of Biology and the ability to evaluate original scientific				
Program Goals 5					<u>Biology goal 5</u> - Biology majors should be sensitive to moral and ethical issues with biological dimensions and be able to formulate		
Program Goals 6	<u>Biology goal 6</u> - Where appropriate to their interests or future plans, Biology majors should develop more advanced skills in scientific communication, research design, statistical analysis, and the use of computer						