

Beloit College



Catalog Supplement 2007-2009

Beloit College Catalog Changes Since July 2007

These are corrections since the publication of the 2007-2009 edition of the Beloit College Catalog.

It includes only the most important curriculum deletions, additions, and revisions. Readers are referred to the 2007-2009 edition for basic information and to the schedule of classes issued each term by the Office of the Registrar.

July 2008

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Biology

Deleted concentrations in Biology:

Biology (with Education Certification);
Cellular and Molecular Biology;
Integrative and Medical Biology.

Changes to concentrations in Biology:

Ecology, Evolution, and Behavioral Biology (15 units)

The ecology, evolution, and behavioral biology major provides a broad background in biology with a focus on how organisms evolve and interact with their biological and physical environments.

1. Eleven departmental units:
 - a. Two introductory biology units chosen from ~~Biology 110 or 111, and 121, 141, 151, or 220.~~
 - b. Biology 247, 289, and 382.
 - c. Four ecology, evolution, and behavioral biology units (at least 1 unit of Biology at the 300 level): one chosen from Biology 210 or 217; one chosen from Biology 337, 372, or Anthropology 324; one chosen from Biology 221, 343 or Anthropology 320; and one additional unit chosen from Biology 206, 210, 215, 217, 220, 221, 291 (with approval of advisor), 337, 343, 372, or Environmental Studies 250.
 - d. Two molecular, cellular, and integra-

tive biology units chosen from
Biology 237, 248, 260, 265, 300, 340,
345, 351, or 357.

2. Supporting courses (4 units):
 - a. Two chemistry units chosen from Chemistry 117* or 150, and 220, 230, or 235.
 - b. One mathematics unit chosen from Mathematics 104 or 110.
 - c. One geology or physics unit chosen from Geology 100, 105, 110, or Physics 101.

3. Writing/Communication requirement:
The biology department has designed its writing experiences in a developmental sequence to enhance each biology major's ability to write effectively. We use writing assignments throughout our curriculum to facilitate and assess student learning; our students write to learn and learn to write.

Biology majors take at least three WL, LW units, which are otherwise required for the major, to satisfy a portion of the Beloit College writing requirement. The biology department offers the following writing courses:

Writing to Learn (WL): 201, 206, 215, 217, 220, 247, 248, 289, and 300

Learning to Write/Writing to Learn (LW, WL): 221, 337, 340, 343, 351, 357, and 372

The biology Senior Seminar (382), the capstone experience for biology and biochemistry majors, requires students to write an original manuscript for publica-

110, 111, or 220;
and 121, 141, or
151.

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tion in *The Beloit Biologist*, the department's in-house journal. Each manuscript is a critical review of a current topic or a report of original research. Students in Senior Seminar experience all of the phases of scientific publishing:

(1) searching, reading, and critically evaluating published literature; (2) writing an original manuscript; (3) revising the manuscript in response to comments and suggestions of reviewers; (4) correcting page proofs in preparation for final publication. In addition, (5) each student reviews manuscripts written by two other members of the seminar and thus contributes to the publication of *The Beloit Biologist* by assisting both the authors and the editor in evaluating manuscripts submitted for publication. *The Beloit Biologist* is distributed to senior biology and biochemistry majors on the morning of Commencement.

* Students with strong high school backgrounds in chemistry should consult with a member of the chemistry department about beginning course work with Chemistry 150, 220 or 230.

Environmental Biology (15 units)

The environmental biology major provides a broad background in biology with a focus on how humans interact with their biological and geological environments.

1. Nine departmental units:

- a. One introductory biology unit chosen from Biology 110, 111, 121, 141, 151 or 220.

b. Biology 247, 289, and 382.

c. Three ecology, evolution, and behavioral biology units (at least 1 unit of Biology at the 300 level): chosen from Biology 206, 210, 215, 217, 220, 221, 337, 343, or 372 or Environmental Studies 250.

d. Two molecular, cellular, and integrative biology units chosen from Biology 237, 248, 260, 265, 300, 340, 345, 351, or 357.

2. Supporting courses (6 units):

a. Two chemistry units chosen from Chemistry 117* or 150, and 220, 230, or 235.

b. One mathematics unit chosen from Mathematics 104 or 110.

c. Two units in geology: one chosen from Geology 100 or 110; and one chosen from Geology 235, 240, or 251.

d. One unit in economics, environmental studies, interdisciplinary studies, political science, or other unit chosen in consultation with the advisor.

3. Writing/Communication requirement: see *Ecology, Evolution, and Behavioral Biology*.

*Students with strong high school backgrounds in chemistry should consult with a member of the chemistry department about beginning course work with Chemistry 150, 220 or 230.

~~**Note:** Geology 215 (Field Geology) may be used as a second geology unit.~~

215,

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Mathematical Biology

(15 units)

The mathematical biology major provides a broad background in mathematics and biology, with a focus on mathematical approaches and models of living systems.

1. Nine departmental units:
 - a. One introductory biology unit chosen from Biology 110, 111, 121, 141, 151, or 220.
 - b. Biology 247, 289, and 382.
 - c. Two ecology, evolution, and behavioral biology units (at least one Biology unit at the 300 level): one chosen from Biology 206, 210, 215, 217, 220, 221, 343; and one chosen from Biology 337 or 372.
 - d. Two molecular, cellular, and integrative biology units chosen from Biology 237, 248, 260, 265, 300, 340, 345, 351, or 357.
 - e. One additional Biology unit above Biology 201.
2. Supporting courses (6 units):
 - a. Two chemistry units chosen from Chemistry 117* or 150, and 220, 230, or 235.
 - b. Mathematics 110 and 115.
 - c. One unit from Mathematics 160, 175, or 200.
 - d. One unit of computer science or mathematics chosen from Computer Science 121, 123, 125, 131, and any full unit Mathematics course above 115.

3. Writing/Communication requirement: see *Ecology, Evolution, and Behavioral Biology*.

*Students with strong high school backgrounds in chemistry should consult with a member of the chemistry department about beginning course work with Chemistry 150, 220 or 230.

Molecular, Cellular, and Integrative Biology

(15 units)

The molecular, cellular and integrative biology major provides a broad background in the sciences with a focus on the molecular, cellular, and integrative mechanisms by which organisms regulate life processes.

1. Nine departmental units:
 - a. One introductory biology unit chosen from Biology 110, 111, 121, 141, 151, or 220.
 - b. Biology 247, 289, and 382.
 - c. Two ecology, evolution, and behavioral biology units chosen from Biology 206, 210, 215, 217, 220, 221, 337, 343, or 372. **
 - d. Three molecular, cellular, and integrative biology units: one chosen from Biology 237 or 248; one chosen from 260, 300**, or 345; and one chosen from 265, 340, 351, or 357.
2. Supporting courses (6 units):
 - a. Two chemistry units chosen from Chemistry 117* or 150, 230, or 235.
 - b. Mathematics 110.

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c. Physics 101.

d. Two units chosen from Chemistry 220, 230, 235, 245, 260, 300**, Mathematics 115, Physics 102 or 210.

3. Writing/Communication requirement: *see Ecology, Evolution, and Behavioral Biology.*

*Students with strong high school backgrounds in chemistry should consult with a member of the chemistry department about beginning course work with Chemistry 150 or 220 or 230.

**Students may not use Biology/Chemistry 300 as both a molecular, cellular, and integrative biology unit and a chemistry unit.

Note: Students anticipating careers in the health professions are strongly encouraged to complete two units in literature and composition, Sociology 275, and Philosophy 221.

Biology Minors

The following two minors are not open to majors in biology, biochemistry, or applied chemistry (with biology as a complementary discipline).

Biology and Society Minor

(6 units)

The biology and society minor focuses on the interaction of humans and biology. Course choices offered in the minor allow the student to focus on an issue of interest (e.g., environment or health). The minor

requires four units representing 100, 200, and 300 levels in the biology curriculum, as well as two supporting units (one in the social sciences or humanities and one with a statistical focus).

1. Four departmental units:

a. One unit from Biology 110, 111, 121, 141, 151, or 220.

b. Two units from Biology 201, 206, 215, 217, 220, or 221.

c. One unit from Biology 337, 343, 351, or 372.

2. Supporting courses (2 units)

a. One unit from Anthropology 320, 328, Environmental Studies 250, Philosophy 221, 224, 230, Sociology 275, or any other course in social sciences or arts and humanities, chosen in consultation with the chair of the biology department.

b. One unit chosen from Biology 247, Anthropology 240, Economics 251, Mathematics 106, Psychology 150, Sociology 305, or any other course with statistical content, chosen in consultation with the chair of the biology department.

Strongly recommended: Participation in courses at a biological field station, e.g., the Coe College Wilderness Field Station. Courses taken at field stations, with proper arrangements, can satisfy certain requirements for the minor.

260 or

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Integrative Biology Minor

(6 units)

The integrative biology minor focuses on the mechanisms by which organisms regulate life processes, grow and develop, reproduce, and behave. The minor requires five units representing 100, 200, and 300 levels in the biology curriculum, as well as one supporting unit in chemistry.

1. Five departmental units:
 - a. One unit from Biology 110, 111, 121, 141, 151, or 220.
 - b. Two units from Biology 237, 247, 248, 260, 265, or 289.
 - c. Two units from Biology 300, 340, 345, 351, or 357.
2. Supporting course (1 unit)
 - a. One unit from Chemistry 117, 150, 220, or 230.

Change in course offering:

201. Biological Issues (1). *New description.* This course examines the operation and limits of scientific inquiry by focusing on several contemporary biological issues such as emerging infectious diseases, population growth and the "Green Revolution," genetic engineering, and dermatogens. The basic biology of these issues is studied, and each issue is examined from an interdisciplinary perspective. The issue focus teaches students about important biological phenomena, about the epistemology of science, and about the critical examination of biologically based social contro-

versies. For nonbiology students. Four lectures/discussions and one laboratory period per week or three two-hour lecture-laboratory periods per week. May be repeated for credit if topic is different. Offered each spring. Prerequisite: One college-level laboratory science course (no exceptions).

Additional course offerings:

215. Emerging Diseases (1). *New course.* An exploration of the relationships between microorganisms, environment, and diseases. General principles of genetics and evolution, as well as historical and political factors, are examined in an effort to explain the emergence of new diseases. Laboratory experiences include basic microbiology, data analysis, simulations, and survey research. Four lectures/ discussions and one laboratory period per week or three two-hour lecture-laboratory periods per week. (WL) Offered each spring. Prerequisite: One college-level biology ~~(no exceptions)~~.

221. Sexual Reproduction of Mammals (1). *New course.* Comparative approach to examine the basic principles of reproduction, lactation, growth, and hormone regulation of mammals with an emphasis on human reproduction. In this course, students examine the interactions of ecology, physiology and evolution in the development of adaptations associated with reproduction. Current methods related to reproductive control, sexually transmitted diseases, and problems that may occur during embryonic development are examined.

Understanding the influence of the neu-

(WL)

teragens

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roendocrine system on reproductive behaviors will be an important component to the course. (LW/WL)

Prerequisite: One college-level laboratory biology course or consent of instructor.

237. Cell Biology (1). *New course.* This course is a comprehensive analysis of cell structure and function and the molecular mechanisms that regulate cellular physiology, with a primary focus on eukaryotic cell biology. Topics include: an introduction to cellular chemistry and thermodynamics; origin and evolution of cells; modern cell biology research techniques; cellular organelles and the endomembrane system; nuclear structure and nuclear transport; structure, synthesis, and regulation of DNA, RNA, and proteins; membrane structure and transport; the cytoskeleton; the extracellular matrix; cell motility and intracytoplasmic transport; cell adhesion and cell communication; cell signaling; cell division and cell cycle regulation; cancer; cell aging and cell death. Lectures will be interwoven with class discussions of contemporary and socially-relevant topics such as stem cell and cloning research; the cell biology of diseases; the cellular targets of biological and chemical toxins and pharmaceutical drugs; cellular stress, aging, and death. The laboratory will use cellular, molecular, and biochemical methods to examine cell biological processes. *Prerequisite: One college level Biology course or consent of the instructor.*

Chemistry

Change to description:

127. Biochemical Issues (1). May be repeated for credit if topic is different.

Computer Science

Change to prerequisite:

301. Topics in Algorithms (1/2).

Prerequisite or corequisite change:

Mathematics 160 or 200.

331. Graphical Algorithms (1/2).

Prerequisite or corequisite change:

Mathematics 160 or 200.

Economics and Management

(1)

Additional course offering:

380. Economics Senior Seminar on the Wealth and Well-Being of Nations (1/2). *Title and description change.*

This capstone course is for all majors in the Department of Economics and Management. As the title suggests, the central question raised in this course is, "What is the nature and causes of wealth and well-being?" This is among the discipline's most important questions, and it is therefore a fitting one to pursue in this capstone course.

Economists have addressed this question with a wide variety of intellectual tools and paradigms and it is the source of continuing debate and discovery. Each year this course is redesigned around the ideas and influence of a major thinker, school of thought, and/or sub-discipline within economics. This design will reflect the content of an annual

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event: *The Wealth and Well-Being of Nations: A Forum in Honor of Miller Upton*. (WL) Prerequisite: Senior standing.

Education and Youth Studies

Additional course offering:

246. Teaching English Abroad: Methods and Applications (1). *New course.* This course is designed for students planning to teach English as a Foreign Language (EFL) abroad after graduation and can serve as a foundation for EFL teaching. The course introduces approaches and methods of teaching EFL and provides an overview of current socio-political issues related to teaching English abroad. Students will examine, discuss, and apply aspects of the following topics: intercultural communication, lesson planning, skill-based methodology, assessment, textbook critiques, technology-enhanced teaching, resource development, and socio-cultural theory. Includes field experience. Prerequisite: Consent of instructor.

Environmental Studies

Additional course offering:

280. Topics in Environmental Studies (1/2, 1). *New course.* Topics vary. Designed to pursue topics in environmental studies that are not addressed in the regular course offerings. May be repeated for credit if topic is different. Prerequisite: Sophomore standing and any two courses that satisfy the Environmental Studies major or

consent of instructor.

Health and Society Major

Change to requirements:

2. Political Science 160 replaces 130 and 180.

Interdisciplinary Studies

Additional course offering:

260. Race Theory (1). *New course.* See *Philosophy 260* for course description.

287. Cities in Transition: Foundation (1/4). *New course.* Using the city of Beloit as laboratory, this course enables students to prepare for Cities in Transition courses taught abroad by 1) experimenting with different tools for reading and understanding urban environments; 2) becoming familiar with relevant theoretical insights, particularly from geography and intercultural communication; and 3) gaining insight into the challenges and benefits of being a sojourner abroad. By the end of the course, participants should feel empowered to enter into their study abroad experience confidently and critically. Prerequisite: Acceptance to a Beloit College study abroad program in the following semester with a Cities in Transitions course.

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Music

Addition to course offerings:

220. Vox Feminae (1/2). *New course.*

Vox Feminae is a musical, historical and sociological investigation into women's choruses and singing societies. The class embraces both the academic and musical through dual components of research and practical musical application, with class time carefully divided between academic investigation and rehearsal. Each member of the class will be responsible for participating as both a researcher and an active member of the choral ensemble, with at least one performance scheduled at the end of the semester. (Also listed as Women's and Gender Studies 230) *Prerequisite: Open to all female students by consent of the instructor; men interested in the course should contact the instructor.*

Philosophy

Additional course offering:

260. Race Theory (1). *New course.* The meaning of race is a hotly debated issue. Is there a biological basis for race? Is race socially constructed? Does the concept of race even make sense? How does racism influence the way we do or do not racially identify ourselves? Race theory is a field in which philosophers pursue the answers to such questions with the help of sociologists, historians, anthropologists, biologists, psychologists, and political scientists. In this course we will examine the concept of race in historical context and evaluate recent theories of what race is and is not, how racism fac-

tors into racial identity, and whether one's race should be celebrated or ignored. (Also listed as Interdisciplinary Studies 260.)

Physics

Additional course offering:

208. Intermediate Physics Lab (1/2).

New course. Intermediate Physics Laboratory covers experimental technique and data analysis beyond the level of introductory physics courses, 101 and 102. Mechanics, electricity and magnetism, and optics are covered, including damped oscillators, coupled oscillators, nonlinear behavior and approaches to chaos, optical interference and diffraction, and Fourier optics. *Prerequisite: Physics 102, Physics 206 or Mathematics 190 should be taken previously or concurrently.*

Psychology

Changes to course offerings:

250. Theories of Personality (1). *title changed to Personality Psychology.*

330. Advanced Research Seminar (1/2). *Units change to (1/2, 1).*

Women's and Gender Studies

Correction to course offering:

306. Advanced Topics in Feminism and Politics (1). *See Political Science 306 for description.*

TUITON AND FEES

Beloit College 2008-2009 Tuition and Fees as approved by the Board of Trustees

Room-single	1,862
Room-double	1,641
Room-triple	1,543
Board-20 meal plan	1,707
Board-14 meal plan	1,643
Board-10 meal plan	1,509
Activities fee	115
Continuing enrollment deposit	200
Applied music lesson fee	225
Late registration fee	25
Per course tuition	3,914
Continuing Education Program	1,149

Comprehensive fee, 2008-2009:

Tuition	\$31,310
Fees	230
Room (double)	3,282
Board (20 meal plan)	3,414
Total comprehensive fee	\$38,236

Each student is allowed to enroll for credit in special projects, field terms, or internships. During a student's tenure as a degree-seeking student at Beloit College, up to 2 such summer experiences, for a total maximum of 2 units, will be billed at a special rate of \$175.00 per experience. Additional summer experiences or units earned in excess of 2 will be billed at the current summer tuition rate.

For questions concerning summer costs, contact Karen Skalak (skalakk@beloit.edu or x:2239) in Accounting.

CALENDAR FOR 2009-2010

Fall Term 2009

AUG 15	Saturday, 9 am	.....	New students arrive
		.....	New Student Days Orientation begins
AUG 22-23		.....	Residence Halls open for all students
AUG 24	Monday	.....	Registration Check in/Drop Add Day
		.....	Convocation
AUG 25	Tuesday	.....	Classes begin
SEPT 17	Thursday	.....	Constitution Day
TBA		.....	Family Weekend
OCT 2-4		.....	Homecoming/Reunion Weekend
OCT 9	Friday, 8 pm	.....	Midterm Break begins
OCT 19	Monday, 8 am	.....	Midterm Breaks ends
OCT 20	Tuesday	.....	First Module ends
OCT 21	Wednesday	.....	Second Module begins
NOV 16-20		.....	International Education Week
NOV 18	Wednesday	.....	International Symposium Day
NOV 25	Wednesday, 10 pm	.....	Thanksgiving Break begins
NOV 30	Monday, 8 am	.....	Thanksgiving Break ends
DEC 8	Tuesday	.....	Thursday classes meet
DEC 9	Wednesday	.....	Classes end
DEC 10	Thursday	.....	Study day
DEC 11 & 12	Friday & Saturday	.....	Exam day
DEC 13	Sunday	.....	Study day
DEC 14 & 15	Monday & Tuesday	.....	Exam day
DEC 16	Wednesday, 5 pm	.....	Residence Halls close for all students
DEC 17	Thursday, 4 pm	.....	Final Grades due

Spring Term 2010

JAN 10	Sunday, 12 noon	.....	Residence Halls open for all students
JAN 11	Monday	.....	Registration Check in/Drop Add Day
JAN 12	Tuesday	.....	Classes begin
FEB 26	Friday, 8 pm	.....	Midterm Break begins
MAR 8	Monday, 8 am	.....	Midterm Break ends
MAR 9	Tuesday	.....	First Module ends
MAR 10	Wednesday	.....	Second Module begins
APR 8	Thursday	.....	Student Symposium
APR 14	Wednesday	.....	Spring Day
APR 27	Tuesday	.....	Thursday classes meet
APR 28	Wednesday	.....	Classes end
APR 29	Thursday	.....	Study day
APR 30 & MAY 1	Friday & Saturday	.....	Exam day
MAY 2	Sunday	.....	Study day
MAY 3 & 4	Monday & Tuesday	.....	Exam day
MAY 5	Wednesday, 5 pm	.....	Residence Halls close for non seniors
	12 noon	.....	Senior Grades due
MAY 6	Thursday	.....	Senior activities
	.....4 pm	.....	Non-Senior Final Grades due
MAY 7	Friday	.....	Senior activities
MAY 8	Saturday	.....	Senior activities
	.....5 pm	.....	Baccalaureate
MAY 9	Sunday, 11 am	.....	Commencement
8 pm	Residence Halls close for seniors

Beloit College
Registrar's Office
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