

BROOKLYN COLLEGE  
OF  
THE CITY UNIVERSITY OF NEW YORK  
FACULTY COUNCIL

Meeting of March 13, 2012

The Committee on Undergraduate Curriculum and Degree Requirements herewith submits its recommendations in Curriculum Document 352.

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Note: All curriculum proposals will now include only new course numbers, wherever possible, with old numbers used only when there is no corresponding new number.

Respectfully submitted,

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Doug Schwab (Art)  
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Members of Faculty Council with any questions are urged to contact Aaron Tenenbaum at [tbaum@sci.brooklyn.cuny.edu](mailto:tbaum@sci.brooklyn.cuny.edu) or (718) 951-5657 prior to the meeting.

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

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## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

### **Department of Biology**

#### **B.A degree program in biology**

HEGIS code 0401

#### **Department requirements (35- 41.5 credits)**

To enroll in any of the following courses--Biology 1002, 2074, 2071 or 2072W, 3002 or 3002W, and 3004--students must have completed the appropriate pre- or co-requisite courses with a grade of C- or better. A student with a grade of D+ or lower in any biology course applied toward fulfillment of department requirements must repeat the course until the grade of C- or higher is earned, or offer another course of equal or higher rank. Any substitution of courses must be approved by the chairperson or deputy chair for advising. At least one course taken must be a writing intensive (W) course offered by the Department of Biology. Students who completed Biology 1080 and 1081 before fall 2010 may substitute them for Biology 1001 and 1002 in all degree requirements.

One of the following biology sequences, a), b), c), or d).

a) All of the following: Biology 1071, 1072, 2073 or 4019, 3006 or 3007W, 3001, 3003, 2011.

All of the following: Biology 2074, 2071 or 2072W, 3002 or 3002W, 3004.

At least 3 credits of the following: Biology 4001, 4002, 4011, 4010/Computer and Information Science 2810, Biology 2010, 2020/Psychology 2610, 4015, 4016, 4012, 4013, 4022, 3083, 5020, Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571 or other advanced courses approved by the chairperson or deputy chair for advising.

b) All of the following: Biology 1001, 1002, 3001, 3002 or 3002W, 3003, 4016, 3006 or 3007W, 2011.

At least 5 credits of the following: Biology 4001, 4002, 4011, 2071 or 2072W, 4010/Computer and Information Science 2810, Biology 2010, 2020/Psychology 2610, 4015, 4016, 4012, 4013, 4022, 3083, 5020, 5001 or 5010 or 5003W or 5014W or Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571 or other advanced courses approved by the chairperson or deputy chair for advising.

c) All of the following: Biology 1002, 1071, 1072, 3001, 3002 or 3002W, 3003, 3004, 3006 or 3007W, 2011.

At least 5 credits of the following: Biology 4001, 4002, 4011, 2071 or 2072W, 4010/Computer and Information Science 2810, Biology 2010, 2020/Psychology 2610, 4015, 4016, 4012, 4013, 4022, 3083, 5020, 5001 or 5010 or 5003W or 5014W or

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Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571 or other advanced courses approved by the chairperson or deputy chair for advising.

d) All of the following: Biology 1001, 2073, 2074, 3001, 3002 or 3002W, 3003, 3004, 3006 or 3007W, 2011.

At least 5 credits of the following: Biology 4001, 4002, 4011, 2071 or 2072W, 4010/Computer and Information Science 2810, Biology 2010, 2020/Psychology 2610, 4015, 4016, 4012, 4013, 4022, 3083, 5020, 5001 or 5010 or 5003W or 5014W or Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571 or other advanced courses approved by the chairperson or deputy chair for advising.

One of the following chemistry requirements, a), b), c), or d):

a) (Chemistry 1100, or 1050 and 2050), and 2500.

b) (Chemistry 1100, or 1050 and 2050), and 2100, and either 3510 or both 3511 and 3512.

c) (Chemistry 1100, or 1050 and 2050), 2100, 3510 or both 3511 and 3512, and either 3520 or both 3521 and 3522.

d) (Chemistry 1100, or 1050 and 2050), and 2100 and 2500.

Mathematics 1201.

Department recommendations

Chemistry 3510 (or both 3511 and 3512) and 3520 (or both 3521 and 3522) and Physics 1100 and 2100 are required for some professional programs and are strongly recommended for prospective graduate students in biology.

Students who anticipate majoring in biology must see a departmental adviser before the end of the sophomore year in order to plan their programs.

Additional requirements for a B.A. degree

Candidates for a B.A. degree with a major in biology must complete at least 18 credits in advanced courses in the Biology department or allowed electives in other departments as described above (not including Biology 1071 and 1072 OR Biology 1001). These 18 credits must be completed with a grade of C- or higher in each course, and 10 or more credits must be completed at Brooklyn College. Specific course requirements for a B.A. degree are described above.

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### **A-III: CHANGES IN DEGREE PROGRAMS**

#### **Department of Biology**

#### **B.S. degree program in biology**

HEGIS code 0401

#### **Department requirements (48-50.5 credits)**

To enroll in any of the following courses--Biology 1002, 2074, 2071 or 2072W, 3002 or 3002W, and 3004--students must have completed the appropriate pre- or co-requisite courses with a grade of C- or better. A student with a grade of D+ or lower in any biology course applied toward fulfillment of department requirements must repeat the course until the grade of C- or higher is earned, or offer another course of equal or higher rank. Any substitution of courses must be approved by the chairperson or deputy chair for advising. At least one course taken must be a writing intensive (W) course offered by the department of Biology. Students who completed Biology 1080 and 1081 before fall 2010 may substitute them for Biology 1001 and 1002 in all degree requirements

One of the following biology sequences: a), b), c), or d):

a) All of the following: Biology 2073, 1072, 1071 or 4019, 3006 or 3007W, 3001, 3003, 2011.

All of the following: Biology 2074, 2071 or 2072W, 3002 or 3002W, 3004.

At least 6 credits of the following: Biology 4001, 4002, 4011, 4010 or Computer and Information Science 2810, Biology 2010, 2020 or Psychology 2610, Biology 4015, 4016, 4012, 4013, 4022, 3083, 5020, 5001 or 5010 or 5003W or 5014W or Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571 or other advanced courses approved by the chairperson or deputy chair for advising.

b) All of the following: Biology 1001, 1002, 3001, 3002 or 3002W, 3003, 3004, 3006 or 3007W, 2011.

At least 9 credits of the following: Biology 4001, 4002, 4011, 2071 or 2072W, 4010 or Computer and Information Science 2810, Biology 2010, 2020 or Psychology 2610, Biology 4015, 4016, 4012, 4013, 4022, 3083, 5020, 5001 or 5010 or 5003W or 5014W or Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571, or other advanced courses approved by the chairperson or deputy chair for advising.

c) All of the following: Biology 1072, 1071, 1002, 3001, 3002 or 3002W, 3003, 3004, 3006 or 3007W, 2011

At least 9 credits of the following: Biology 4001, 4002, 4011, 2071 or 2072W, 4010 or Computer and Information Science 2810, Biology 2010, 2020 or Psychology 2610,

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Biology 4015, 4016, 4012, 4013, 4022, 3083, 5020, 5001 or 5010 or 5003W or 5014W or Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571, or other advanced courses approved by the chairperson or deputy chair for advising.

d) All of the following: Biology 1001, 2073, 2074, 3001, 3002 or 3002W, 3003, 3004, 3006 or 3007W, 2011.

At least 9 credits of the following: Biology 4001, 4002, 4011, 2071 or 2072W, Biology 2010, 4010 or Computer and Information Science 2810, Biology 2010, 2020 or Psychology 2610, Biology 4015, 4016, 4012, 4013, 4022, 3083, 5020, 5001 or 5010 or 5003W or 5014W or Interdisciplinary Studies 4101 or 4102, Chemistry 4570 or 4571, or other advanced courses approved by the chairperson or deputy chair for advising.

All of the following: Chemistry 1100, or 1050 and 2050; 2100, 3510 or both 3511 and 3512, 3520 or both 3521 and 3522. Mathematics 1201

### **Department recommendation**

Students who anticipate majoring in biology must see a departmental adviser before the end of the sophomore year in order to plan their programs.

### **Additional requirements for a B.S. degree**

Candidates for a B.S. degree with a major in biology must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the Biology Department or required courses and allowed electives in other departments as described in items a), b), c) or d) above. (not including Biology 1071 and 1072 OR 1001). These 24 credits must be completed at Brooklyn College with a grade of C- or higher in each course. Specific course requirements for a B.S. degree are described above.

The following courses may be applied toward the 60 credits in science and mathematics:

A) All courses in the departments of biology, chemistry, computer and information science, earth and environmental sciences, mathematics, physics and psychology.

B) Courses marked with a (\*) symbol in the Department of Health and Nutrition Sciences.

C) ---Anthropology and Archaeology 2201, 3230, 3240, 3250, 3260, 3199, 4665.

---Core Studies 5, 5.1, 5.2, 7.1, 7.2, 8.1, 8.2.

---Core Curriculum 1300 through 1399

---Core Curriculum 3301 through 3399

---Economics 3400, 4410, 3410, 4422.

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---Philosophy 3203, 3204, 3601.  
---Physical Education 3271, 3275, 3023, 4229, 4251.  
---Sociology 2701

**Rationale:**

1. The in-residence credit requirement of 24 credits did not previously include courses offered in other departments such as Chemistry that are required for the biology major. This change will accommodate the large number of transfer students who will otherwise have to take extra courses and delay graduation just to fulfill this requirement.
2. The Chairperson's duty to approve substitutions in the major has been ambiguous in previous versions. The new language will clarify the approval process.
3. Biology 4012 is added as another allowed elective for the major.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

### **A-III: CHANGES IN DEGREE REQUIREMENTS**

#### **Department of Biology**

#### **Department of Psychology**

Creation of a new interdisciplinary minor program

#### **Minor in neuroscience**

**Program Requirements:** Interdisciplinary minor, offered by the departments of Psychology and Biology; requiring 18-21 credits including 12 advanced credits each completed with a grade of C- or higher. At least 6 of the advanced credits must be completed at Brooklyn College. Two of the advanced elective courses cannot be used to satisfy the requirements of both the minor and the major. Students who do not major in psychology are strongly encouraged to also take Psychology 3400 or Mathematics 4501.

#### **Courses:**

All of the following:

- Psychology 2600 Mind, Brain, and Behavior;
- Psychology 2610 Neurobiology / Biology 2020 Neurobiology
- Psychology 3600 Introduction to Physiological Psychology

Three of the following:

- Psychology 3660 Drugs and Behavior;
- Psychology 3670 Comparative Psychology;
- Psychology 3680 Human Neuropsychology;
- Psychology 4690 Special Topics in Biopsychology (cross-listed with Biology 5020); requires approval of the Chair of Psychology or Biology.

Note that the prerequisite for Psychology 2600 is one of the following: Psychology 1 or 1000 or 4019 or Health and Nutrition Sciences 2300 or Physical Education 3271.

Therefore, students who otherwise would not take any of these courses will have to complete 21 credits for the minor.

**Rationale:** Neuroscience is a quickly evolving and increasingly important field crossing departmental and disciplinary boundaries of psychology, biology, and other life sciences. Currently, we have an undergraduate neuroscience interest group with over 400 members. Offering a minor in neuroscience will meet growing student demand and at the same time make students more competitive when applying for graduate schools and research positions in research centers.

**Date of approval by the departments:** February 14, 2012

**Effective date:** Fall 2012

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## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

### **Department of Chemistry**

#### **B.A. degree program in chemistry**

HEGIS code 1905; SED program code 02082

#### **Department requirements (49-53 ½ credits)**

Chemistry 1100 or both Chemistry 1050 and 2050.

All of the following: Chemistry 2100, 3410 or 3415W, 3510 or both 3511 and 3512, 3520 or both 3521 and 3522, 4600 or 4610.

At least five credits chosen from the following: Chemistry 2700, 3420, 4530, 4550, 4570, 4571, 4580, 4581, 4620, 4640, 4720, 4760, 4761, either 4780 or 4790, Biology 2073 and 2074 (or Biology 17 and 17.1).

One of the following physics sequences a) or b) or c):

a) Physics 1100 (or Physics 1111 and 1112) and 2100.

b) Physics 1150 and 2150

c) Physics 1150 and 2100.

The following mathematics sequence:

Mathematics 1201 and 1206.

A minimum of 15 credits in advanced courses in chemistry must be completed at Brooklyn College with a grade of C- or higher in each course.

**Rationale:** Effective Fall 2012, chemistry 3510 (a combined laboratory and lecture course) is being replaced by chemistry 3511 (a lecture course) and chemistry 3512 (a laboratory course). Similarly, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and 3522 (a laboratory course). A single section of chemistry 3510 and 3520 will continue to be offered for those students who have taken chemistry 3510 and 3520 in the past, and are retaking these courses with a department approved lab exemption. Therefore, students can complete the degree requirements by completing either the old, combined laboratory and lecture courses (3510 and 3520) or by completing the new laboratory courses (3512 and 3522) in addition to the new lecture courses (3511 and 3521).

**Date of approval by Department of Chemistry:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

### **Department of Chemistry**

#### **B.A. degree program in adolescence education: chemistry teacher**

HEGIS code 1905.01; SED program code 26813

The Department of Secondary Education and the Department of Chemistry jointly offer a program for students who plan to teach chemistry in grades 7 through 12. Additional information may be obtained from the Department of Secondary Education or the Department of Chemistry. Adolescence education (grades 7-12) and special subject programs are writing intensive. Students should consult a counselor as early as possible to plan their program.

#### **Department requirements (68-81 ½ credits)**

Chemistry 1100 or both Chemistry 1050 and 2050

All of the following: Chemistry 2100, 2700, 3410 or 3415W, 2500 or ~~both~~ 3510 and 3520 or 3511 and 3512 and 3521 and 3522, 4600 or 4610.

One of the following physics sequences a) or b) or c):

a) Physics 1100 (or Physics 1111 and 1112) and 2100.

b) Physics 1150 and 2150

c) Physics 1150 and 2100.

One of the following biology sequences, a), or b):

Biology 1001 or 1080 and Biology 1002 or 1081.

Biology 2073 and 2074.

The following mathematics sequence: Mathematics 1201 and 1206.

The following pedagogical courses in the Department of Secondary Education: Secondary Education 2001, 2002, 3401, 3402, 4404, 4410 (total of 21 credits):

This four-term sequence may be started in the lower-sophomore term, or upper-sophomore term: Secondary Education 2001, 2002, 3401, 3402 (12 credits).

The appropriate 5-credit course in student teaching: Secondary Education 4404 Seminar on Methods of Teaching Science, Student Teaching I

The appropriate 4-credit course in student teaching: Secondary Education 4410 Advanced Seminar on Methods of Teaching Science, Student Teaching II

This program reflects changes in teacher certification requirements recently implemented by the New York State Education Department. Students completing majors in secondary education or in special subjects under the former requirements should refer to the 2000-2003 Undergraduate Bulletin.

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Degree programs in adolescence education and in special subjects include a major in an appropriate department of the college and in the case of social studies may also include an approved selection of interdepartmental courses.

Completion of an adolescence education program as part of a major in English, one of the appropriate social sciences, mathematics, one of the sciences, or a language other than English qualifies students for New York State initial certification in adolescence education for grades 7 through 12.

Students qualifying for the initial certification in adolescence education may obtain an extension to teach English, social studies, mathematics, or one of the sciences in grades 5 and 6 by taking Secondary Education 4410.

Students, must complete 21 credits in the Department of Secondary Education as specified above.

Students must have a GPA of 2.50 or higher based on a minimum of 30 credits in liberal arts and sciences to take Secondary Education 2001, 2002, 3401 or 3402; an average of 2.75 in Secondary Education 2001 and 2002 is required to continue to Secondary Education 3401 and/or Secondary Education 3402; to take Secondary Education 4413 or 4401-4406, students must have an overall GPA of 2.75 or higher and permission of the head of adolescence education and special subjects; to take Secondary Education 4407-4412, students must earn a B- or higher in Secondary Education 4401-4406, a GPA of 2.75 or higher in their major, and the permission of the head of adolescence education and special subjects. A student who takes Secondary Education 4407-4412 prior to Secondary Education 4401-4406 must earn a B- or better grade in 4407-4412 to take Secondary Education 4401-4406.

**Rationale:** Effective Fall 2012, chemistry 3510 (a combined laboratory and lecture course) is being replaced by chemistry 3511 (a lecture course) and chemistry 3512 (a laboratory course). Similarly, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and 3522 (a laboratory course). A single section of chemistry 3510 and 3520 will continue to be offered for those students who have taken chemistry 3510 and 3520 in the past, and are retaking these courses with a department approved lab exemption. Therefore, students can complete the degree requirements by completing either the old, combined laboratory and lecture courses (3510 and 3520) or by completing the new laboratory courses (3512 and 3522) in addition to the new lecture courses (3511 and 3521).

**Date of approval by Department of Chemistry:** February 14, 2012

**Effective date:** Fall 2012

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## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

### **Department of Chemistry**

#### **B.S. degree program in chemistry**

HEGIS code 1905; SED program code 02084

#### **Department requirements (67-70 ½ credits)**

Chemistry 1100 or both Chemistry 1050 and 2050

All of the following: Chemistry 2100, 3410 or 3415W, 3510 or both 3511 and 3512, 3520 or both 3521 and 3522, 4600 or 4610.

At least nine credits chosen from the following: Chemistry 2700, 3420, 4530, 4550, 4570, 4571, 4580, 4581, 4640, 4720, 4760, 4761, either 4780 or 4790, Biology 2073 and 2074 (or Biology 17 and 17.1).

One of the following physics sequences a) or b) or c):

a) Physics 1100 (or Physics 1111 and 1112) and 2100.

b) Physics 1150 and 2150

c) Physics 1150 and 2100.

Computer and Information Science 1.10, 1.20, or 1110.

One of the following mathematics sequences a) or b):

a) Mathematics 1201 and 1206 and 2201.

b) Mathematics 3.20 and 4.20 and 1211 and 2201.

A college-wide minimum of 24 credits in advanced courses in chemistry must be completed at Brooklyn College with a grade of C- or higher in each course.

**Rationale:** Effective Fall 2012, chemistry 3510 (a combined laboratory and lecture course) is being replaced by chemistry 3511 (a lecture course) and chemistry 3512 (a laboratory course). Similarly, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and 3522 (a laboratory course). A single section of chemistry 3510 and 3520 will continue to be offered for those students who have taken chemistry 3510 and 3520 in the past, and are retaking these courses with a department approved lab exemption. Therefore, students can complete the degree requirements by completing either the old, combined laboratory and lecture courses (3510 and 3520) or by completing the new laboratory courses (3512 and 3522) in addition to the new lecture courses (3511 and 3521).

**Date of approval by Department of Chemistry:** February 14, 2012

**Effective date:** Fall 2012

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**SECTION A-III: CHANGES IN DEGREE**

**Department of Chemistry**

**Minor in biochemistry**

**Department requirements**

Biology 2073;

Chemistry 1100 or both 1050 and 2050;

Chemistry 2100;

Chemistry 3410 or 3415W or Biology 2074 or Biology 1002;

Chemistry 3510 or both 3511 and 3512, 3520 or both 3521 and 3522, 4570;

Chemistry 4580 or 4581.

**Rationale:** Effective Fall 2012, chemistry 3510 (a combined laboratory and lecture course) is being replaced by chemistry 3511 (a lecture course) and chemistry 3512 (a laboratory course). Similarly, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and 3522 (a laboratory course). A single section of chemistry 3510 and 3520 will continue to be offered for those students who have taken chemistry 3510 and 3520 in the past, and are retaking these courses with a department approved lab exemption. Therefore, students can complete the degree requirements by completing either the old, combined laboratory and lecture courses (3510 and 3520) or by completing the new laboratory courses (3512 and 3522) in addition to the new lecture courses (3511 and 3521).

**Date of approval by Department of Chemistry:** February 14, 2012

**Effective date:** Fall 2012

**SECTION A-III: CHANGES IN DEGREE PROGRAM**  
**Department of Earth and Environmental Sciences**

**B.A. degree program in earth and environmental sciences**

HEGIS code 1914; SED program code 02090

**Department requirements** (~~33-34.5~~ 33-34 credits)

All of the following:

- a) Earth and environmental sciences 1101, 1201, 2200, 2300, 3350, 3675, 3750  
~~Earth and environmental sciences 1201, 2100, 2200, 2300.~~
- b) Earth and environmental sciences 3400W. ~~At least six credits in Earth and environmental Sciences courses numbered 2000 or above.~~
- c) Chemistry 1040 or 1100 or its equivalent.
- d) Mathematics 1201, or Computer and Information Science 1110, or Earth and environmental sciences 3800

All required Earth and Environmental Sciences courses numbered 1500 or higher must be completed with a grade of C- or higher in each course.

**Rationale:** The changes to our BA program maintain consistency with our modified BS program. The new list of EESC course requirements will provide students with a foundation in the concepts that unite the Earth and Environmental sciences.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012



**SECTION A-III: CHANGES IN DEGREE PROGRAM**  
**Department of Earth and Environmental Sciences**

**B.S. degree program in earth and environmental sciences**  
HEGIS code 1914; SED program code 02092

**Department requirements** (~~59.5—64~~ 58.5 - 60 credits)

All of the following:

- a) Earth and environmental sciences 1101, 1201, 2200, ~~2300, 3100, 3350, 3675, 3750, 3850.~~ Earth and environmental sciences, 2100, 3850, 3000, 2100, 3300, 2200, 2300, 3750.
- b) Earth and environmental sciences 3400W.
- c) At least ~~6~~ twelve additional credits in the following courses:  
Any Earth and environmental sciences courses numbered ~~2000~~ 1500 or above, and which may include up to six credits from the following:  
Anthropology 2402, 3440, 3470, 3480, 3250.  
Biology 3003, 3082, 3083, 4003, 4080.  
Chemistry 2500, 2700, 3410, 3420, 3510, 4610.  
Health and Nutrition Sciences 2130.  
Physics 3500, 4200
- d) Chemistry 1040, 1100 or its equivalent. ~~, and Earth and Environmental Sciences 3100.—~~
- e) Mathematics 1201.
- f) Mathematics 1206 or Computer and Information Science 1110 or Earth and environmental sciences 3800.
- g) Biology ~~4080~~ 1001 or Physics 1100 or its equivalent or Physics 1150.

All required Earth and environmental sciences courses numbered 1500 or higher must be completed with a grade of C- or higher in each course.

**Rationale:** The degree conferred is now “Earth and Environmental Sciences”, and so the curriculum needs to reflect this integration and diversity. Accordingly, the list of required courses (essentially freshman and sophomore offerings) have been redefined to provide students with a set of courses that are foundational to both earth science and environmental science, and will provide students with a basis to make an informed decision regarding their set of advanced electives. The number of electives has been broadened to allow students to follow a path that will allow them to focus on either earth science or environmental science, and furthermore, select an area in which they can begin to develop a specialization. Given that both Earth Science and Environmental Science are disciplines that apply a broad range of scientific disciplines to an earth-focused problem, the electives have been broadened to include choices from related disciplines.

**Date of departmental approval:** February 14, 2012

**Effective Date of the change:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS** **Program in Environmental Studies**

### **B.A. degree program in environmental studies**

HEGIS code 4999; NYS SED program code 21627

The Environmental Studies Program offers the bachelor of arts degree with a concentrations ~~in either environmental studies or environmental management (59.5 to 73 credits)~~ environmental science, sociology or economics (48-51 credits).

~~A major in environmental studies prepares students for career opportunities in government, business, teaching, journalism, or politics. A major in environmental management provides excellent preparation for environmental careers in business. Both concentrations provide a strong foundation for graduate or professional study in environmental science, biology, geography, public policy, law, public health, or education.~~

The deteriorating condition of the global environment and efforts to save it are two of the most pressing issues on the national and international agendas. Our environmental studies program examines the dynamic relationship between social systems and natural systems through the interdisciplinary lens of sustainability. Students will examine the trade-offs between environmental sustainability, social sustainability, and economic sustainability. Our place-based, problem solving approach to learning takes advantage of our urban setting. Students will have the opportunity to examine first hand the causes of the urban sustainability problems of the 21st century, and devise solutions that promote environmental protection, social equity, and economic vitality. With their degree in hand, students will be well-equipped for “green collar” careers in public policy, the private sector, and non-governmental organizations.

### **Program requirements (45-51 ~~59 1/2-73~~ credits)**

Students must complete both A and B below: all of the following, A through F:

A. 1. All of the following courses:

~~Environmental Studies 1001.~~

~~Computer and Information Science 1110.~~

~~Mathematics 1011; or Mathematics 1021 and 1026.~~

Economics 2251 or Earth and environmental sciences 1500 or Sociology 2202.

Economics 3251 or Earth and environmental sciences 1501 or Sociology 3201.

Biology 3083, Earth and environmental sciences 1201, 3750, Economics 2200, 3254,

Sociology 1101, 2201, Philosophy 3309, Environmental Studies 4001W.

2. Economics 3400 or Earth and environmental sciences 3800 or Sociology 2112.

~~Health and Nutrition Sciences 3300.~~

~~Mathematics 1501.~~

~~Physical Education 3075.~~

~~Political Science 3422.~~

~~Psychology 3400.~~

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

~~Sociology 2113.~~

~~(Note that Health and Nutrition Sciences 3300, Physical Education 3075, and Sociology 2113 have advanced prerequisites.~~

~~Students not explicitly meeting these prerequisites who feel that they may be prepared for the particular course should consult the department chairperson.)~~

~~B.~~

~~1. One of the following science sequences:~~

~~Biology 1080 and 1081.~~

~~Chemistry 1100, or 1050 and 2050; and Chemistry 2100.~~

~~Geology 1100 and 1200.~~

~~Physics 1100, or 1111 and 1112; and Physics 2100.~~

~~2. Two of the following courses, chosen from discipline(s) other than that chosen in B.1. above:~~

~~Biology 1080, 1081.~~

~~Chemistry 1100, 1050 and 2050 (count as one choice), 2100, 1040.~~

~~Earth and Environmental Science 1100, 1200.~~

~~Health and Nutrition Sciences 2120.~~

~~Physics 1100, 1111 and 1112 (count as one choice), 2100.~~

~~C. At least 9 credits chosen from the following advanced science courses (note that some of these courses have prerequisites):~~

~~Biology 4001, 3003, 3005.~~

~~Chemistry 3410, 3420, 3510, 3520.~~

~~Geology 3450, 3475, 3525, 3500, 3400W, 3600, 3650, 3675.~~

~~Health and Nutrition Sciences 2130, 2300 (the same course as Physical Education and Exercise Science 3271), 2131, 2132.~~

~~Physical Education and Exercise Science 3271 (the same course as Health and Nutrition Sciences 2300).~~

~~D. Economics 2200.~~

~~E.~~

~~Environmental Studies 4001W.~~

B. F. Students must complete one of the three Options either ~~Option 1~~ or ~~Option 2~~ below.

Option 1: Concentration in Environmental Science Studies

1. All of the following courses:

~~Philosophy 3306.~~

~~Political Science 1001.~~

~~Sociology 2201.~~

2. Nine credits from the following advanced humanities and social science courses:

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

~~Classics 3232.~~

~~Economics 3252, 3232.~~

~~Philosophy 3309.~~

~~(Studies in) Religion 3020.~~

Earth and environmental sciences 3600, 3610, 3675

Chemistry 1040 or Chemistry 1100 or Earth and environmental sciences 3100

Option 2: Concentration in Environmental Economics Management

~~1. Business 3200 and 3100.~~

~~2. Nine credits from the following: Business 3210, 3130, 3440, 3140, 3170; Economics 3252; Philosophy 3309.~~

Economics 3202, 3252, 3253, 4400W

Option 3: Concentration in Environmental Sociology

Sociology 2701, 3202, 3204, 3205

**Rationale:** These changes in the B.A. program in environmental studies are the product of the environmental studies review committee, convened by the Provost and charged with the mission of designing an environmental studies program that would address the academic interests and needs of Brooklyn College students while preparing them for the growing “green job” market. The proposed curriculum reflects the recommendations of outside reviewers that “urban environmental sustainability” be the unifying theme that gives the program both a distinctive “brand” as well as an organizing principle. The curricular design that is embodied in this document builds on existing strengths in the “three pillars of sustainability” – ecology, economy and equity. It provides students with a common core as well as advanced electives in one of the three lead departments – Earth and Environmental Sciences, Economics, and Sociology. The program addresses the needs of students for both disciplinary depth and interdisciplinary breadth, with skills training (such as quantitative methods and GIS) essential to make students employable in the green job market. The program is designed to accommodate our large transfer student population.

**Date of program approval:** February 14, 2012.

**Effective date:** Fall 2012.

**SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

**Department of Film**

**B.A. degree program in film**

HEGIS code 1010

**Department requirements**

Students must complete one of the following concentrations.

A. Film studies (33 credits)

All of the following: Film 1101, 3101W, 2115, 2116.

One of the following: Film 3122 or 3130.

Two of the following plus their prerequisites: Film 2114, 2120, 2126, 2128, 2129, 2131.

Four additional three-credit film studies courses numbered 2100 or higher plus any prerequisite of the courses.

B. Film production (39 credits)

All of the following: Film 1101, 1201, 2501, 2401, 3300W, 3200, 3700, 2601, 2701, 1301.

Three additional three-credit film studies courses plus their prerequisites.

C. Documentary production (33 credits)

All of the following: Film 1101, 1201, 1301, 2120, 2201, 2601, 2701, 3101W, 3201, 3701.

One of the following: Anthropology 3180, Art 3167, Film 3202, Philosophy 3315, Sociology 2800.

D. Screenwriting (33 credits)

All of the following: Film 1101, 3101W, 2115, 2116, 1201, 1301, 2301, 3301, 4301.

Students must ~~also take any combination of~~ two additional advanced film studies ~~and film production~~ courses, one of which may be substituted from the following: English 3301 or 3306; Television and Radio 2616 or 3661 or 3662 or 3850; Theater 1101 or 1003. Screenwriting students are encouraged to select additional electives outside the department from the courses above as well as related writing courses across the curriculum.

E. Industry studies (33 credits)

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

All of the following: Film 1101, 3101W, 2114, 2115, 2116, 2901, 2902, 1201, 2801, 1301.

One of the following: Film 4901, 5187.

The department chairperson or designee may allow substitutions consistent with the educational goals of the program for one or more requirements in any concentration.

Students must complete each of the required courses for all concentrations with a grade of C or higher, except in specific instances in which a grade of B or higher is stipulated.

A student may not enroll for a third time in any course in which s/he has twice received a grade of D or lower or the administrative grades of W or WU. An exception may be made following written appeal, but only if a student can establish changed circumstances that would permit satisfactory performance in the course.

A student whose complete academic record includes a combination of six or more failing grades and withdrawals may not enroll in any course in the department without the written permission of the chairperson.

All majors are expected to fulfill college-wide requirements, including those in English and the core curriculum, in a timely fashion. Any student who does not demonstrate satisfactory progress toward the completion of these requirements will be prohibited from taking upper-level courses in the major.

Film majors who have received transfer credits from other colleges and who are enrolled in the concentration in film production must complete a minimum of 21 credits in the Department of Film at Brooklyn College. Of these, six credits must be in the area of film studies (film courses numbered 2100 through 2199, 3100 through 3199, and 4100 through 4199). Film majors who have received transfer credits from other colleges and who are enrolled in a concentration other than film production must complete 18 credits in the Department of Film at Brooklyn College. Of these, six credits must be in the area of film studies.

**Rationale:** Included in this document are three proposed changes. First, because students have found the current description of electives in the screenwriting concentration confusing, it has been revised for clarity.

Second, the department seeks to localize the authority for approving course substitutions. With dwindling budgets necessitating the cancelation of courses, including some that are fully enrolled, the department must have the flexibility to substitute courses responsibly and expeditiously so that students may complete their degrees in a timely fashion. Additionally, many film students come to the college with a high level of expertise in an area of production or post-production, and they should rightfully be exempted from related introductory or intermediate courses. This change will also streamline the exemption process.

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

Third, although the department has had a long-standing residency requirement, the current placement of its description in the Bulletin suggests that it applies only to students in the film certificate program. The repetition of this requirement directly after the listing of B. A. concentrations removes any doubt concerning its application. Along with the additional description, the department has reduced the number of major credits that must be taken in residence. This addresses the issue of transfer students who arrive with a very large number of credits in film. Many of them have been forced to take film courses simply to meet the residency requirement rather than for any compelling pedagogical purpose. This change allays that situation.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

### **Department of Film**

#### **Certificate program in film**

HEGIS code 5008

#### **Department requirements**

Program requirements: Production track (30 credits)

Students must complete a program consisting of Film 1101, 1201, 2501, 2401, 3300W, 3200, 3700, 2601, 2701, and 1301.

Students must complete each required course with a grade of C or higher except in specific instances in which a grade of B or higher is stipulated.

Students who have received transfer credits from other colleges must complete a minimum of 21 credits in the Department of Film at Brooklyn College.

The Department of Film will permit certificate students, on request, to enroll in some prerequisite courses as corequisites.

Students who desire full-time enrollment status in the certificate program must have a plan of study approved by the chairperson of the Department of Film before registering for classes.

Program requirements: Screenwriting track (30 credits)

Students must complete a program consisting of Film 1101, 2115, 2116, 2901, 1201, 1301, 2301, 3301, 4301, and any three-credit film studies course numbered 2100 or higher.

The department chairperson or designee may allow substitutions consistent with the educational goals of the program for one or more requirements in either track.

Students must complete each required course with a grade of C or higher except in specific instances in which a grade of B or higher is stipulated.

Certificate students who have received transfer credits from other colleges must complete a minimum of ~~24~~ 21 credits in the Department of Film at Brooklyn College. The Department of Film will permit certificate students, on request, to enroll in some prerequisite courses as corequisites.

Students who desire full-time enrollment status in the certificate program must have a plan of study approved by the chairperson of the Department of Film before registering for classes.

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added



**Rationale:** Included in this document are two proposed changes. First, the department seeks to localize the authority for approving course substitutions. With dwindling budgets necessitating the cancelation of courses, including some that are fully enrolled, the department must have the flexibility to substitute courses responsibly and expeditiously so that students may complete their programs of study in a timely fashion. Additionally, many film students come to the college with a high level of expertise in an area of production or post-production, and they should rightfully be exempted from related introductory or intermediate courses. This change will also streamline the exemption process.

The second change that the department proposes is the reduction of the number of major credits that must be taken in residence. This addresses the issue of transfer students who arrive with a very large number of credits in film. Many of them have been forced to take film courses simply to meet the residency requirement rather than for any compelling pedagogical purpose. This change allays that situation.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

### **Department of Finance and Business Management**

#### **B.B.A. degree program in business administration**

HEGIS Code 0506, SED Program Code 30604

#### **A. Department requirements (56 – 64 credits):**

##### **Business Core** (44 - 46 credits)

Students must complete all of the following:

Accounting 2001, Accounting 3201, Computer and Information Science 1050 or Computer and Information Science 1110, Business 2100 or Economics 2100, Business 2200 or Economics 2200, Business 3400 or Economics 3400 or Mathematics 2501 or Mathematics 3501 or Psychology 3400, Business 3410 or Economics 3410 or Mathematics 1201, Business 3430 or CISC 2531, Business 3100, Business 3200, Business 3310, Business 3170, Business 4200W, Philosophy 3314 or Classics 3233

##### **Concentration** (12- 18 credits)

Students must complete a minimum of 12 credits in one of the following eight concentrations:

##### **Business for Health Professions**

Required Courses (15 credits): Any 15 credits from any combination of the following courses:

Any Biology or Chemistry courses except for courses in the college-wide Core Curriculum,  
Health and Nutrition Sciences 2111, 2120, 2300, 2301, 3160, 3210,  
Physical Education and Exercise Science 3041, 3042, 3045, 3271, 3275, 3281, 3285  
4251,  
Psychology 2600, 3180, 3600, 3680.

A student specializing in this track may modify the Business Core above and may use a lesser number of credits to satisfy the Business Core. Specifically, Business 3170 and either Business 3430 or Computer and Information Science 2531 are not required. The student may also substitute Business 3220 for Accounting 3201.

##### **Business Law and Real Estate**

Required Courses (15 – 16 credits): Accounting 4201, Business 2300, Business 3220, Business 3350, and Business 3360 or Accounting 3360 or Business 3182 or Philosophy 3740 or Accounting 3101.

##### **E-Business**

Required Courses (15 credits): Business 3110 or Computer and Information Science 1597 or TV Radio 3537; Business 3120 or Computer and Information Science 1530;

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

Business 3420 or Computer and Information Science 1590; Business 3432 or Computer and Information Science 2532; and Business 3440 or Computer and Information Science 1595.

A student specializing in this track may modify the Business Core above and should take Business 4202W or Computer and Information Science 1580W in lieu of Business 4200W; and may take Computer and Information Science 2820W or Philosophy 3318W in lieu of Philosophy 3314 or Classics 3233. Business 4200W will only be acceptable for students in this track with the permission of the deputy. Students may also substitute Computer and Information Sciences 1600 for Business 3170.

***Finance and Investments***

Required Courses (18 credits): Business 3320 or Economics 3320 or Business 3377; Business 3330; Business 3340 or Business 4400W or Economics 4400W; Business 2300; Business 3350 or Business 3373; Business 4300W or Business 3311.

***International Business***

Required Courses (9 credits): Business 3140, Business 3150 or Puerto Rican and Latino Studies 4515, Business 3175 or Business 3377

Elective Courses (a minimum of 3 credits): Africana Studies 3140; Business 3171; Business 3178, Business 3245; Business 3250 or Women's Studies 3345; Economics 3352; Economics 3362; Sociology 2601; Political Science 3242; Puerto Rican and Latino Studies 4505; Anthropology 3520 or Puerto Rican and Latino Studies 3210

***Leadership and Human Resource Management***

Required Courses (17 credits): Business 3240 or Psychology 3172, Business 3024 or Business 3245 or Business 3250 or Women's Studies 3345, Business 3251 or Philosophy 3335 or Business 3252, Business 3220, Business 3210 or Psychology 3171 or Economics 3212, Business 3260

***Management***

Required Courses (12 credits): Business 3240 or Psychology 3172, Business 3210 or Psychology 3171, Business 3220, Business 3230

Elective Courses (a minimum of 2 credits): Africana Studies 3337, Business 2010, Business 3023, Business 3420 or Computer and Information Science 1590, Business 3250 or Women's Studies 3345, Business 3251 or Philosophy 3335, Business 3252, Business 3260, Business 3440 or Computer and Information Science 1595, Business 3180, Business 4202W or Computer and Information Science 1580W, Economics 3212, Economics 3242, Sociology 3607

***Marketing***

Required Courses (12 credits): Business 3130 or TV and Radio 2517, Business 3140, Business 3150 or Puerto Rican and Latino Studies 4515 or Business 3160 or Business

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

3180, Business 4100W

Elective Courses (a minimum of 3 credits): Business 3120 or Computer and Information Science 1530, Business 3110 or Computer and Information Science 1597 or TV and Radio 3537, Sociology 2800, TV and Radio 1165, TV and Radio 2519

With permission of the Deputy Chairperson of the Department of Finance and Business Management, the student may substitute an appropriate course to replace one of the above courses for any of the BBA concentrations.

**Writing-Intensive Requirement:** Students are required to take at least one writing-intensive course (W course).

**Residence Requirement:** At least 21 credits of the above courses, including at least one required capstone seminar course, must be completed at Brooklyn College

**Rationale:** Business 3178 (“Country Risk Analysis”), Business 3373 (“Enterprise Risk Management”), Business 3311 (“Advanced Corporate Finance”), Business 3023 (“Business and Government”), Business 3024 (“Labor Relations in a Free Society”), and Business 3377 (“Global Financial Management”) are new courses that are of great value to BBA students.

**Date of department approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**

### **Department of Philosophy**

#### **B.A degree program in philosophy**

HEGIS code 1509 (SED program code 02057)

Philosophy is a writing-intensive major.

#### **Department requirements (25-38 credits)**

##### **Option I: Philosophy**

Recommended for students planning graduate study in philosophy and for others for whom a broad background in philosophy is desirable.

The department Chair, with the approval of the chair of the department's curriculum committee, may allow substitutions for one or more course requirements, consistent with the educational goals of our program.

All of the following: Philosophy 3111, 3121, 3320, 3401, 3410.

Philosophy 3203 or 3204.

One additional Philosophy Department course numbered Philosophy 3101, or higher.

##### **Option II: Philosophy and Law**

Recommended for students planning careers involving public affairs, law, or planning and management.

The department Chair, with the approval of the chair of the department's curriculum committee, may allow substitutions for one or more course requirements, consistent with the educational goals of our program.

All of the following: Philosophy 3105, 3320, 3410, 3703, 3704, 3740.

Philosophy 3203 or 3210.

One of the following: Philosophy 3306 through 3317 or 3720.

##### **Option III: Philosophy and Other Fields**

Recommended for students planning careers in medicine, cognitive science, the arts, and for other students interested in acquiring a knowledge of philosophy that also contributes to the understanding of another field.

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

The department Chair, with the approval of the chair of the department's curriculum committee, may allow substitutions for one or more course requirements, consistent with the educational goals of our program.

Students must satisfy A, B, and C below.

A. One course from each of the following groups, (1), (2), (3), and (4):

- (1) Philosophy 3111 or 3121.
- (2) Philosophy 3203 or 3204 or 3210 or 3232.
- (3) Philosophy 3320 or 3501 or 3704.
- (4) Philosophy 3401 or 3410 or 3420.

B. Three courses: One course from each of the following groups, (1), (2), and (3) below. The course chosen from each group may not be used to satisfy any of the above Option III-A requirements or any other Option III-B requirement.

(1) One course chosen from Philosophy 3215 through 3239 or 3320 through 3329 or 3401 through 3429 or 3501 through 3799 or 3130 or 3805.

(2) One course chosen from Philosophy 3101 through 3199 or 3620 through 3629 or 3502 or 3703.

(3) One course chosen from Philosophy 3301 through 3317 or 3422 or 3520 or 3720 or 3805.

C. One of the following, (1) or (2) or (3) or (4) below:

(1) At least 12 credits in courses taken in a single department or program outside the Philosophy Department.

(2) At least 12 credits in any selection of the following science courses: Biology ~~1080, 1084~~ 1001, 1002; Chemistry 1040, 1050, 1100, 2050, 2100, 2500, 3510, 3520; Health and Nutrition Sciences 2109 or 2130; Physics 1100, 1111, 1112, 1150, 1190, 2100, 2150.

(3) A Minor in Cognitive Science or a Minor in Global Studies or a Minor in Corporate Social Responsibility. (Philosophy courses taken to complete a minor in cognitive science or to complete a minor in global studies or to complete a minor in corporate social responsibility can also be applied towards the satisfaction of Option III-A and Option III-B requirements for a major in philosophy.)

(4) A Minor in Philosophy and the Arts, or a Minor in Philosophy and the Sciences, or a Minor in Philosophy, Culture and the Social Sciences, or a Minor in Professional and Applied Ethics, or a Minor in Logic, Reasoning and Rationality. (Philosophy courses taken to complete a minor in philosophy and the arts, or to complete a minor in philosophy and the sciences, or to complete a minor in philosophy, culture and the

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

social sciences or to complete a minor in professional and applied ethics, or to complete a minor in logic, reasoning and rationality can also be applied towards the satisfaction of the above Option III-A and Option III-B requirements for a major in philosophy.)

#### **Option IV: Philosophy and Business**

Recommended for students planning careers in business.

The department Chair, with the approval of the chair of the department's curriculum committee, may allow substitutions for one or more course requirements, consistent with the educational goals of our program.

Philosophy 3314 and 3320.

One course from each of the following groups, A), B), C), D), and E).

The course chosen from each group may not be used to satisfy any other Option IV requirement.

A) Philosophy 3203 or 3210.

B) Philosophy 3401, 3410, 3422, or 3530.

C) Philosophy 3123, 3130, 3141, or 3703.

D) Philosophy 3704 or 3740.

E) Philosophy 3305 through 3317, or 3145, or 3720.

One of the following groups, either Marketing/Management or Finance:

- Marketing/Management:

All of the following: Business 3240 or Psychology 3172; Business 3100, 3130, 3200.

- Finance:

Accounting 2001 and either Business 3400 or Economics 3400.

Two of the following: Economics 3320, Business 3310 or 3330.

#### **Option V: Philosophy Honors**

The department Chair, with the approval of the chair of the department's curriculum committee, may allow substitutions for one or more course requirements, consistent with the educational goals of our program.

Students must satisfy A, B, C and D below.

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

A. All of the following: Philosophy 3111, 3121, 3320.  
One of: Philosophy 3203 or 3204.  
One of: Philosophy 3401 or 3410.

B. One course chosen from group (1), and one course chosen from group (2). The course chosen from each group may not be used to satisfy any of the above Option V-A requirements or any other Option V-B requirement.

(1) One of: Philosophy 3215, 3220, 3401 through 3429, 3530, 3601, 3610, 3611, 3621; and

(2) One of: Philosophy 3111 through 3159, 3501, 3512, 3702, 3703, 3704, 3730, 3740.

C. A student must complete at least one of the following seminars with honors credit and with a grade of B or higher: Philosophy 4105 or 4110 or 5101 or 5102 or 5110 or 5111.

D. A student must have an academic index of 3.50 or higher in philosophy courses taken to satisfy the major.

**Rationale:** Empowering the Chairperson and Curriculum Committee Chair to allow course substitutions will enable the department to respond quickly to unforeseen changes in course scheduling which inhibit students' progress to graduation.

The change in Biology course numbers in the Philosophy Major Option III reflects the renumbering of these courses by the Biology department.

**Date of department approval: December 13, 2011**

**Effective date of the change: Fall 2012**



**SECTION A-III: CHANGES IN DEGREE REQUIREMENTS**  
**Department of Television and Radio**

**B.A. degree program in television and radio**  
HEGIS code 0603; SED program code 76212

**Department requirements** (36 credits)

All of the following: Television and Radio 1165, 2616, 2265, 2420, 4430W.

Two of the following: Television and Radio ~~3824~~ 3841 or 3951 or 3861 or 3871.

One of the following: Speech 1714 or 1715 or 1619 or 2623.

Six additional credits in Television and Radio Department courses numbered 2000 and higher.

An additional 6 credits of advanced course work in any department or area other than the departments in the School of Visual, Media and Performing Arts. These credits must be approved by Television and Radio faculty.

Students may not offer more than six credits for a baccalaureate degree from Television and Radio 4870, 4175, 4176, 4177, and 4578.

**Rationale:** The changes in degree requirements simply reflect the renumbering of one course.

**Date of department approval:** December 13, 2011

**Effective date:** Fall 2012

## **SECTION A-IV: NEW COURSES**

### **Program in American Studies**

#### **3708 Performing America: Nation, Identity, and the Arts**

4 hours; 4 credits

Explores the ways in which American national identity has been performed and how performance plays a role in citizens' self-conception. Examples drawn from early US drama, nineteenth-century melodrama and minstrelsy, Broadway musicals, opera, film, television, and digital media as well as performances of self in everyday life. This course is the same as Music 2107.

Prerequisite or corequisite: American Studies 1001 or permission of the director

**Frequency of offering:** Every three semesters

**Projected enrollment:** 15-25 students

**Rationale:** Building on Benedict Anderson's assertion that nations are "imagined communities," this course explores the ways in which American national identity has been performed. Concretely, the course will explore the role that performances of all kinds—from early American drama, to nineteenth century minstrelsy, to Broadway musicals, to contemporary television and film—have played in the production of America's national self-conception. Students will consider US national identity itself as a kind of performance, established through performative speech acts ("We the people..."), and open to transformation and contestation by performers and audiences of all sorts. Looking at a wide variety of genres (musicals, opera, drama, performance art, television, film, digital media), students will examine the cultural work of specific performances—ranging from dramatic antebellum renditions of *Uncle Tom's Cabin* to the Fox television series *Glee*—at pivotal historic moments.

**Clearances:** History, Sociology, Film, TV/Radio

**Department goals addressed by the course:** After taking this course:

- Students will learn to research and write critically about the history, aesthetics, and practice of the performing and media arts using print and electronic research tools.
- Students will analyze American culture as it relates to multiple art forms, including music, theater, film, and apply their specific understanding of one or more of these fields to the criticism of such performances.
- Students will learn how performing and media arts have reflected and shaped US culture and national identity. They will also learn to identify some of the contemporary socio-political manifestations and uses of performance in cultural development and communication.

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- In an interdisciplinary context, students will learn how to articulate and employ some of the theories and methodologies that illuminate American performance practice(s).

**Date of program approval:** Feb. 14, 2012

**Effective date:** Fall 2012

## **SECTION A-IV: NEW COURSES**

### **Department of Earth and Environmental Sciences**

#### **3610 Coastal Marine Science**

3 hours; 3 credits

Global and local changes in coastal marine environments; biological, chemical and physical processes and human impacts in coastal waters; topics include water quality, habitat restoration, sediment contamination and climate change.

Prerequisites: Earth and Environmental Sciences 1201, 3750 and 3800.

Prerequisites and Corequisites: Earth and Environmental Sciences 3600 and 3675 and either Chemistry 1040 or 1100 or Earth and Environmental Sciences 3100.

**Frequency of offering:** Every Spring semester.

**Projected enrollment:** 24 students

**Clearances:** None

**Rationale:** The mission of the department has expanded to include both Earth and Environmental science, and therefore, we must deliver a sufficiently in-depth experience to both fields in our curriculum. Furthermore, the Environmental Studies program is being revised to include an Earth and Environmental Science concentration, and thus new courses with a focus on environmental science concepts and processes are necessary. This course serves the needs of both the EESC and the ENST majors by providing a capstone course that integrates concepts and skills that have been developed in the students through the progression of courses.

Here, the students will be challenged to apply quantitative reasoning and interdisciplinary science knowledge to understand how humans impact urban environments on the coast. Twenty-two of the 32 largest cities in the world are located on coastal estuaries, and thus coastal marine environments are some of the most heavily impacted ecosystems on Earth. Our students live on such a heavily impacted urban estuary, and yet few of them realize the connections between their city and the water that surrounds it. This course is designed to provide students with an opportunity to apply interdisciplinary and quantitative reasoning to environmental problems using a relevant, local environmental issue as a focal point.

#### **Department goals addressed by course:**

1. Emphasize strong quantitative reasoning skills
2. Train students in the tools and methods used in their profession
3. Teach across disciplines in the Earth and Environmental Sciences.
4. Expand the course offerings of the department to include an emphasis on environmental issues in urban environments

**Date of departmental approval:** February 14, 2012

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**Effective date:** Fall 2012

## **SECTION A-IV: NEW COURSES**

### **Department of Earth and Environmental Sciences**

#### **3755 Advanced GIS and Remote Sensing**

2 hours lecture, 2 hours lab; 3 credits

Advanced techniques and modeling applications of ArcGIS including spatial analyst, 3D analyst, and geostatistic analyst; image processing including image enhancement and classification of satellite data using Idrisi and ArcGIS softwares.

Prerequisite: Earth and environmental sciences 3750 or permission of the department chairperson.

**Frequency of offering:** Once every four semesters.

**Projected enrollment:** 20 students

**Clearances:** None

**Rationale:** The use of GIS and remote sensing are essential skills for many types of Earth and environmental research, as well as many other disciplines including archaeology, geography, sociology, and economics. Building on skills and concepts learned in the Introduction to GIS course, students will learn a wide suite of GIS and remote sensing applications relevant for their academic programs at Brooklyn College and for their professional careers. This course will emphasize problem solving, spatial thinking, and quantitative analysis. Students will devise projects where they will carefully document the problem solving process and develop critical thinking skills.

The Department now has a fully functional Geospatial lab with ArcGIS and Idrisi, image processing software, 20 computers, a 42" scanner, B&W and color printers, 20 Trimble high end GPS units with 2-5 meter horizontal resolution, and one Trimble ProXRT GPS receiver with sub meter horizontal resolution. Working with the Department of Anthropology and Archaeology, the departments share 2 total stations and will be acquiring a base station for centimeter level horizontal and vertical accuracies.

#### **Department goals addressed by the course:**

1. Provide students with geospatial analytical skills
2. Provide students with training in modern computational methods and software applications in their profession
3. Provide opportunities for the integration of Earth and Environmental sciences

**Date of Departmental Approval:** February 14, 2012

**Effective Date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## **SECTION A-IV: NEW COURSES**

### **Department of Economics**

#### **3254 Ecological Economics**

3 hours; 3 credits

The closely intertwined relationship between the human economy and ecological systems. A broad survey of the foundations, key concepts, and methods of ecological economics and the ecosystem services that underpin the wealth of nations. Examination of the following fundamental questions: 1, Is it possible to place a monetary value on nature (or the services that nature provides)? 2, Is it possible to substitute man-made capital for natural capital? I.e., as we degrade the natural environment and exhaust natural resources and produced capital goods compensate for these losses? 3, How can we measure the scale of human activities, their impact on ecosystem state, and determine what level is ultimately sustainable?

**Prerequisite:** Economics 2200 and 3400

**Frequency of offering:** Once a year

**Projected enrollment:** 30 students

**Clearances:** Earth and Environmental Sciences, Economics, Sociology

**Rationale:** The course responds to student demand for an interdisciplinary course that equips students with the economic concepts and tools required to explore the interrelationships between economic and ecological systems. This course is designed to equip students in the natural and social sciences with the economic tools required to support environmental policy decisions.

**Department goals addressed by the course:** The course addresses the following *knowledge goals*: knowledge and understanding of public policy, international/global issues, and appreciation of social diversity. The course also addresses the following *skills goals*: the ability to apply general economic principles to the real world, ability to use the tools of economic analysis to understand policy issues ability to acquire and use data to evaluate competing theories, oral and written communication skills, problem-solving skills and analytical thinking.

**Date of Departmental Approval:** February 14, 2012

**Effective Date:** Fall 2012

## **SECTION A-IV: NEW COURSES**

### **Department of English**

#### **4112 Introduction to History and Literature**

4 hours; 4 credits

An introductory seminar for students in the history and literature concentration. Introduction to the concept of interdisciplinarity and to fundamental methods of analyzing history and literature.

*Prerequisite:* English 1012.

**Frequency of Offering:** once a year

**Projected enrollment:** 1 section of 20 students

**Clearance:** Department of History

**Rationale:** As part of a general investment in the practice of interdisciplinary thinking and work and a commitment to the creation of a History and Literature concentration, the English department wishes to offer its students an opportunity to evaluate and practice approaches to the study of history and literature. The course teaches students to think along interdisciplinary lines and practice their critical skills. Emphasis will be placed on seeing literary texts in historical contexts. It will be the first course offered to students in this prospective History and Literature program and will introduce them to its basic tenets as well as to a wide range of primary literary and historical texts. Additional writing assignments will give students increased practice in a greater variety of formats and applications.

**Department Goals Addressed by The Course:** In accordance with English department goals, this course develops the following skills and knowledge bases:

- the expression of ideas in oral and written work;
- a critical approach to the analysis of texts;
- an appreciation for literary complexity;
- an understanding of the interrelation of language, culture;
- the ability to understand and analyze literary texts;
- an understanding of literature in its interdisciplinary contexts (e.g., cultural, social, historical, scientific, psychological, and political);
- learning to identify literary styles in the context of historical periods;
- the ability to understand and apply literary/critical theory;
- an understanding of the interrelation of language, culture, and society; and
- the ability to make judgments, listen to others, and engage in civil debate.

This course, in conjunction with a capstone seminar on the practice of history and literature—a seminar whose creation is also currently being proposed—will constitute an introductory course in a prospective History and Literature degree program within the

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added



English department. The creation of these two new courses, now that the department has been externally evaluated, is consonant with the charge we were given: to develop a multi-year plan that includes curricular renovation and innovation, particularly with regard to interdisciplinary approaches.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

**SECTION A-IV: New Courses**  
**Department of English**

**4113 Theory of History and Literature**

4 hours; 4 credits

A capstone seminar for students in the history and literature concentration. Close examination of the methodologies practiced in the study of history and literature. Focus on approaching literary texts in historical and theoretical contexts. Integration of methodologies and independent research resulting in a final project intended as the groundwork for a senior thesis.

*Prerequisite:* English 4112 or permission of the chairperson.

**Frequency of Offering:** once a year

**Projected enrollment:** 1 section of 20 students

**Clearance:** Department of History

**Rationale:** As part of a general investment in the practice of interdisciplinary thinking and work and a commitment to the creation of a History and Literature concentration, the English department wishes to offer its students an opportunity to evaluate and practice theoretical approaches to the study of history and literature. The course teaches students to hone their ability to think along interdisciplinary lines, practice their critical skills, build and analyze a body of research, search archives for primary texts, and produce a final project that may be used as the foundation for the senior thesis that follows this course. As a culmination of students' work in the History and Literature concentration, this capstone course will build upon students' theoretical knowledge, offering a wide and challenging range of methodological approaches to texts. This course will also foster students' ability to research independently, and to develop unique scholarly projects. Additional writing assignments will give students increased practice in a greater variety of formats and applications.

**Department Goals Addressed by Course:** In accordance with English department goals, this course develops the following skills and knowledge bases in students:

- the expression of ideas in oral and written work;
- a critical approach to the analysis of texts;
- an appreciation for literary complexity;
- an understanding of the interrelation of language, culture, and society;
- the ability to understand and analyze literary texts;
- an understanding of literature in its interdisciplinary contexts (e.g., cultural, social, historical, scientific, psychological, and political);
- learning to identify literary styles in the context of historical periods;
- the ability to understand and apply literary/critical theory;
- an understanding of interrelation of language, culture, and society; and

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

- the ability to make judgments, listen to others, and engage in civil debate.

This course, in conjunction with an introductory seminar on the practice of history and literature—a seminar whose creation is currently being proposed—will constitute a capstone course in a proposed History and Literature concentration by the English department. The creation of these two new courses, now that the department has been externally evaluated, is consonant with the charge we were given: to develop a multi-year plan that includes curricular renovation and innovation.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012 semester

## **SECTION A-IV: NEW COURSES**

### **Department of Finance and Business Management**

#### **BUSN 3023 Business and Government**

3 hours; 3 credits.

Timely topics relevant to the relationship of business and government including the historical development of the role of business in society and the non-market environment within which businesses must be managed. Current issues such as the Wall Street bailout, regulation of and lobbying by Wall Street and banking, and business's social policy concerns.

Prerequisite: Sophomore status or permission of the department

**Frequency of offering:** once every year in the spring semester

**Projected enrollment:** 25 students per year

**Clearances:** Economics and Political Science

**Rationale:** Business and Government is a traditional business school course that has become increasingly important because of business's increasing dependence on government and because of the increased importance of lobbying. The business degrees (BBA and BS) offered by the School of Business are interdisciplinary and prepare majors for all types of careers in business while providing students with a strong grounding in the liberal arts. Part of the business school's mission is to encourage students to think creatively about how business affects society and manages organizations. Thinking about models that can explain business's increasing political power, lobbying, and dependence on government fits that mission. The course combines concepts and modes of thought that will help students to think about public policy concerning business in light of economic and business history; it will encourage creative thinking that links liberal arts perspectives with business training.

#### **Department goals addressed by the course:**

- Students will develop knowledge of the functional areas of business including general management.
- Students will develop competency in verbal communication skills.
- Students will develop the ability to think creatively, especially when dealing with issues involving public policy and government relations.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## **SECTION A-IV: NEW COURSES**

### **Department of Finance and Business Management**

#### **BUSN 3024 Labor Relations in a Free Society**

3 hours; 3 credits.

This course is an introduction to and overview of the business and social implications of organized labor. Alternative perspectives on labor unions will be contrasted and applied. The course takes a comparative approach. Current issues respecting public sector unionism will be discussed.

Prerequisite: Sophomore status or permission of department

**Frequency of offering:** Once every year in the spring semester

**Projected enrollment:** 25 students per year

**Clearances:** Economics and Political Science

**Rationale:** Labor Relations is a traditional business school course that has fallen out of fashion because of the declining union density rate in the private sector. However, recent controversies concerning health insurance and public sector unionism suggest the importance of a course that educates students about unions. The course will be offered as an alternative to business 3240.

The business degrees (BBA and BS) offered by the School of Business are interdisciplinary and prepare majors for all types of careers in business while providing students with a strong grounding in the liberal arts. Part of the business school's mission is to encourage students to think creatively about how business affects society and how to manage organizations. Labor Relations fits that mission. It combines concepts and modes of thought that will help students to think about managing human resources; it will encourage creative thinking that links liberal arts perspectives with business training.

#### **Departmental goals addressed by the course:**

- Students will develop knowledge of the functional areas of business including human resource management and general management.
- Students will develop competency in verbal communication skills.
- Students will develop the ability to think creatively, especially when dealing with issues involving labor relations.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## **SECTION A-IV: NEW COURSE**

### **Department of History**

#### **3479 Bad Habits: Defining and Controlling the “Minor Vices” in Twentieth-Century America**

3 hours, 3 credits

The history of changing definitions of “minor vices” in the modern United States (1840-present); the social costs of addictive, dangerous, or economically non-productive behaviors; emphasis on “moral panics” concerning behavior of adolescents and young adults; smoking, drinking, and drug-taking, “inappropriate” movies, comic books, music, sexual activities, video-gaming and internet; commercial forces shaping and promoting the “bad habits” for profit; regulatory solutions to behavioral choices; underlying assumptions about children’s purity and susceptibility.

Prerequisite: None

**Frequency of Offering:** Once every four semesters.

**Projected Enrollment:** 25

**Clearances:** Health and Nutrition, May 11, 2010  
Women’s Studies, March 22, 2010  
American Studies, February 21, 2012

**Rationale:** The history of how Americans defined and responded to “bad habits,” particularly when engaged in by adolescents and young adults, offers a powerful way to explore deep cultural questions: who defines, who defends, cultural mores? How much power do commercial interests wield in shaping consumer habits and consumption? Where is the proper seat of authority to police young people’s behavior—parents, religious authorities, social scientists and medical authorities, or the criminal justice system? Studying the shifting answers to these questions, as well as identifying familiar patterns of response that recur with each new “moral panic” provides a novel and informative view of modern American history. What we sought to ban says a lot about who we have been.

**Department Goals Addressed by Course:** The History Department has content goals that are reflected in distribution requirements, and six major skill goals. History majors must each complete three credit hours in U.S. history. The course also addresses all of our major skill goals, listed below:

1. Understanding the relationship between cause and effect in history.
2. Understanding the connections between social, cultural, economic, technological, political, and diplomatic developments across time and space.
3. Acquiring a sense of chronology—the time sequence of historical events, as well as issues of periodization.

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4. Making connections between past and present, understanding patterns of change and continuity in history.
5. Developing and broadening historical perspectives (making intellectual leaps) across a range of spatial, temporal, and cultural boundaries.
6. Developing critical thinking, reading, and writing skills in history.

**Date of departmental approval:** February 14, 2012-02-22

**Effective date:** Fall 2012

## **SECTION A-IV: NEW COURSES**

### **Conservatory of Music**

#### **2107 Performing America: Nation, Identity, and the Arts**

4 hours; 4 credits

Explores the ways in which American national identity has been performed and how performance plays a role in citizens' self-conception. Examples drawn from early US drama, nineteenth-century melodrama and minstrelsy, Broadway musicals, opera, film, television, and digital media as well as performances of self in everyday life. This course is the same as American Studies 3708.

Prerequisite or corequisite: American Studies 1001 or permission of the director

**Frequency of offering:** Every three semesters

**Projected enrollment:** 15-25 students

**Rationale:** Building on Benedict Anderson's assertion that nations are "imagined communities," this course explores the ways in which American national identity has been performed. Concretely, the course will explore the role that performances of all kinds—from early American drama, to nineteenth century minstrelsy, to Broadway musicals, to contemporary television and film—have played in the production of America's national self-conception. Students will consider US national identity itself as a kind of performance, established through performative speech acts ("We the people..."), and open to transformation and contestation by performers and audiences of all sorts. Looking at a wide variety of genres (musicals, opera, drama, performance art, television, film, digital media), students will examine the cultural work of specific performances—ranging from dramatic antebellum renditions of *Uncle Tom's Cabin* to the Fox television series *Glee*—at pivotal historic moments.

**Clearances:** History, Sociology, Film, TV/Radio

**Department goals addressed by the course:** After taking this course:

- a) Students will have honed their writing and research skills through frequent low-risk writing assessments as well as formal research papers with bibliographies.
- b) Through their project work, students will have learned some of the challenges and opportunities of working within an interdisciplinary framework.
- c) Students will have gained an awareness of cultural differences and diversity in American cultural production (including performance, visual and media art, music, and literature) through vigorous class discussions, readings, and presentations.
- d) Students will have improved their oral communication skills through frequent participation in discussion as well as project presentations about the course content.

**Date of departmental approval:** Feb. 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added



**SECTION A-V: CHANGES IN EXISTING COURSES**

**Department of Art**

Change in title

**FROM:**

**3054 Latin American Art, 1492-2000**

3 hours; 3 credits

Examination of art and architecture of Latin America from the Conquest to the present.

Prerequisite: Core 1120 or ARTD 1050

**TO:**

**3054 Latin American Art, 1492 to the Present**

3 hours; 3 credits

Examination of art and architecture of Latin America from the Conquest to the present.

Prerequisite: Core 1120 or ARTD 1050

**Rationale:** The new title better reflects the course content.

**Date of department approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Art**

Change in title

#### **FROM:**

#### **~~3100 Approaching the Arts of the "Non-West": Legacies of Colonialism and Imperialism~~**

3 hours, 3 credits

Examination of the arts of selected cultures that developed outside the spheres of influence of major European civilizations. Investigation of the effect of European imperialism and colonization on Western understanding and interpretation of cultures from these areas.

Prerequisite: Core Curriculum 1120.

#### **TO:**

#### **3100 Approaching "Non-Western" Art**

3 hours, 3 credits

Examination of the arts of selected cultures that developed outside the spheres of influence of major European civilizations. Investigation of the effect of European imperialism and colonization on Western understanding and interpretation of cultures from these areas.

Prerequisite: Core Curriculum 1120.

**Rationale:** Changes to course title are due to strange manner in which the course was input into the catalogue (it reads "Leg. of Colon"). Currently, students find the title confusing. The new title is simpler and will assist students in understanding course content more clearly.

**Date of apartment approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Art

Changes in title and course description

#### **~~3148 Latin American Art from Pre-Conquest to the Modern Era: The Indigenous Presence~~**

3 hours, 3 credits

Exploration of the art and architecture of the major civilizations that flourished in the regions we now call Latin America from the first millennium BCE through the conquest and colonization by Spain in the 16th century. Evaluation of the effect of these indigenous traditions upon art and culture in Latin America from the Colonial period to the modern era, including modernists such as Diego Rivera and Frida Kahlo.

*Prerequisite:* Art 1050 or Core Studies 2.1 or Core Curriculum 1120.

#### **3148 Pre-Columbian Art of Mesoamerica and the Andes**

3 hours, 3 credits

Exploration of the art and architecture of the major civilizations, such as the Maya, Aztec, and Inka, that flourished in the regions we now call Latin America from the first millennium BCE through the conquest and colonization by Spain in the sixteenth century. Course includes a brief evaluation of the effect of these indigenous traditions upon art and culture in Latin America from the colonial period to the modern era, including modernists such as Diego Rivera and Frida Kahlo.

*Prerequisite:* Art 1050 or Core Studies 2.1 or Core Curriculum 1120.

**Rationale:** Changes to course title and description reflect the need to clarify the course's content. Currently, students find the title confusing. The new title is simpler and will assist students in understanding course content more clearly.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012.

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Biology

Changes in prerequisite

#### From:

#### **3004 Microbiology Laboratory**

4 hours; 2 credits

Techniques for isolation, cultivation, and characterization of bacteria and the use of microbes as experimental organisms.

~~Prerequisite: Biology 1002 or any two of the following: Biology 2073, 1072, 1071, 3006, 3001, 2011.~~ Prerequisite or corequisite: Biology 3003.

#### To:

#### **3004 Microbiology Laboratory**

4 hours; 2 credits

Techniques for isolation, cultivation, and characterization of bacteria and the use of microbes as experimental organisms.

Prerequisite or corequisite: Biology 3003.

**Rationale:** The pre-requisite is enforced at the level of Biology 3003 and doesn't need to be repeated here.

**Date of departmental approval:** February 14, 2012

**Effective date of change:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Biology

Change in prerequisites and exclusion

#### From:

#### **4012 Medical Microbiology**

3 hours; 3 credits

Microbes as disease agents. Examination of host-microbe interactions, the immune response, nature and mechanisms of infectious diseases, chemotherapy, drug resistance, and epidemiology. (~~Not open to students who have completed Biology 42.~~)  
Prerequisite: ~~Biology 40.1 or 41 or 3002 [52.1] or 3004 [52.2]~~, or permission of the chairperson.

#### To:

#### **4012 Medical Microbiology**

3 hours; 3 credits

Microbes as disease agents. Examination of host-microbe interactions, the immune response, nature and mechanisms of infectious diseases, chemotherapy, drug resistance, and epidemiology.  
Prerequisite: Biology 3003 or permission of the chairperson.

**Rationale:** The prerequisite for this course is updated and references to obsolete courses are removed from the prerequisites and from the exclusion clause.

**Date of departmental approval:** February 14, 2012

**Effective date of change:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisite and credits

#### FROM:

##### **\*1050 General Chemistry IA**

3 hours lecture; 2 credits

Introduction to the principles of chemistry with more introductory material than is covered in Chemistry \*1100. Chemistry \*1050 and \*2050 constitute a two-term sequence intended for students who are not prepared for Chemistry \*1100. (Not open to students who are enrolled in or who have completed Chemistry \*1100.)

*Prerequisite:* a passing grade in intermediate high school algebra ~~or a grade of C- or higher in Mathematics 0.47.~~

#### TO:

##### **\*1050 General Chemistry IA**

3 hours lecture; 3 credits

Introduction to the principles of chemistry with more introductory material than is covered in Chemistry \*1100. Chemistry \*1050 and \*2050 constitute a two-term sequence intended for students who are not prepared for Chemistry \*1100. (Not open to students who are enrolled in or who have completed Chemistry \*1100.)

*Prerequisite:* a passing grade in intermediate high school algebra or equivalent.

**Rationale:** Chemistry 1050 is intended to provide a “slow track” entry to the general chemistry sequence for students whose science and math preparation is weak. Students are advised to register for Chemistry 1050 if they did not take high school chemistry, if they scored less than 85 on the New York Regents examination, or (for those who took chemistry outside of New York State) if they do not believe their chemical education was strong. A simple examination is given on the first day of Chem 1100 to help identify students who are not prepared for the course, and these students are advised to register for Chem 1050. The course covers roughly half of the material covered in Chem 1100. Students proceed into Chem 2050, where the second half of the materials in Chem 1100 is covered, and then on to Chem 2100 (the standard second semester course). Assessment of the value of the approach is difficult, but enrollments in organic chemistry have gone up significantly in the 7 years since the department began aggressively pushing underprepared students into the Chem 1050/2050 track. Anecdotal evidence also confirms that some students do go on to medical and professional schools from the Chem 1050/2050 track.

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

As written, the course awards students 2 credits for 3 hours of instructional time. This is out of compliance with Brooklyn College's standard formula for credits (1 credit/hour of lecture), and is no longer economically sustainable. The department therefore requests that the number of credits be increased to 3 so that the college can continue to offer the course.

The prerequisite is changed to avoid reference to an obsolete course number.

**Date of approval by department:** February 14, 2012

**Effective Date of the change:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in credits

#### FROM:

##### **\*2050 General Chemistry IB**

3 hours lecture, 3 hours laboratory; ~~3½~~ credits

Continuation of Chemistry \*1050. (Not open to students who are enrolled in or who have completed Chemistry \*1100.)

*Prerequisite:* Chemistry \*1050

#### TO:

##### **\*2050 General Chemistry IB**

3 hours lecture, 3 hours laboratory; 4½ credits

Continuation of Chemistry \*1050. (Not open to students who are enrolled in or who have completed Chemistry \*1100.)

*Prerequisite:* Chemistry \*1050

**Rationale:** Chemistry 2050 is the second-half of a “slow track” entry to the general chemistry sequence for students whose science and math preparation is weak. The curriculum covers the second half of the material in Chem 1100, and students who complete the course proceed to Chem 2100 (the standard second semester course).

As written, the course awards students 3.5 credits for 3 hours of lecture time and 3 hours of laboratory time. This is out of compliance with Brooklyn College’s standard formula (1 credit/lecture hour + ½ credit/laboratory hour), and is no longer economically sustainable. The department therefore requests that the number of credits be increased to 4.5 so that the college can continue to offer the course.

**Date of approval by department:** February 14, 2012

**Effective Date of the change:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added



## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in exclusion

#### From:

##### **\*2500 Organic Chemistry for Health-related Professions**

1 hour recitation, 3 hours lecture, 3 hours laboratory; 5 credits

Survey of fundamental classes of organic compounds, and principles of organic chemistry as applied to aliphatic, aromatic, and biologically important compounds. Emphasis on structure, properties, and preparative methods. Intended for students in nursing or other health-related fields. Not intended for chemistry majors. (Not open to students who are enrolled in or have completed Chemistry 3510.)

Prerequisite: Chemistry \*1100 or 2050 or 1040.

#### To:

##### **\*2500 Organic Chemistry for Health-related Professions**

1 hour recitation, 3 hours lecture, 3 hours laboratory; 5 credits

Survey of fundamental classes of organic compounds, and principles of organic chemistry as applied to aliphatic, aromatic, and biologically important compounds. Emphasis on structure, properties, and preparative methods. Intended for students in nursing or other health-related fields. Not intended for chemistry majors. (Not open to students who are enrolled in or have completed Chemistry 3510 or both 3511 and 3512.)

Prerequisite: Chemistry \*1100 or 2050 or 1040.

**Rationale:** Two courses, Chemistry 3511 (lecture/recitation) and Chemistry 3512 (laboratory) will replace Chemistry 3510.

**Date of departmental approval:** February 14, 2012

**Effective Date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

#### **3450 Chemistry Teaching Laboratory Management**

2 hours lecture, 4 hours laboratory; 4 credits

Basics of creating a chemistry laboratory curriculum, including laboratory safety, the procurement, storage, dispensing and disposal of chemicals, and budgeting experiments. Introduction to modern laboratory pedagogies. Role of chemistry in modern society, with examples of industrial chemistry and information on careers in the field.

Prerequisite: one semester of organic chemistry (Chemistry \*2500 or 3510) and one semester of analytical chemistry (Chemistry 3410 or 3415W)

#### To:

#### **3450 Chemistry Teaching Laboratory Management**

2 hours lecture, 4 hours laboratory; 4 credits

Basics of creating a chemistry laboratory curriculum, including laboratory safety, the procurement, storage, dispensing and disposal of chemicals, and budgeting experiments. Introduction to modern laboratory pedagogies. Role of chemistry in modern society, with examples of industrial chemistry and information on careers in the field.

Prerequisite: one semester of organic chemistry (Chemistry \*2500 or 3510 or both 3511 and 3512) and one semester of analytical chemistry (Chemistry 3410 or 3415W)

**Rationale:** Effective Fall 2012, chemistry 3510 (a combined laboratory and lecture course) is being replaced by chemistry 3511 (a lecture course) and chemistry 3512 (a laboratory course). A single section of chemistry 3510 will continue to be offered for those students who have taken chemistry 3510 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3510) or by completing the new laboratory course (3512) in addition to the new lecture course (3511).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites and description

#### From:

##### **3511 Organic Chemistry I Lecture**

3 hours lecture, 1 hour recitation; 3 credits

Structure and properties of fundamental classes of organic compounds. Emphasis on reactivity, reaction mechanisms, synthesis, stereochemistry, and applications to allied fields. First semester of a two-semester sequence intended for students interested in science and in health professional programs including medical, dental and pharmacy school. (Students who have taken Chemistry 2500 will lose credit for Chemistry 2500 upon successful completion of this course.)

Prerequisite: Chemistry 2100

Prerequisite or co-requisite: ~~Chemistry 3510~~ or Chemistry 3512

#### To:

##### **3511 Organic Chemistry I Lecture**

3 hours lecture, 1 hour recitation; 3 credits

Structure and properties of fundamental classes of organic compounds. Emphasis on reactivity, reaction mechanisms, synthesis, stereochemistry, and applications to allied fields. First semester of a two-semester sequence intended for students interested in science and in health professional programs including medical, dental and pharmacy school. (Students who have taken Chemistry 2500 or 3510 will lose credit for Chemistry 2500 and 3510 upon successful completion of this course.)

Prerequisite: Chemistry 2100

Prerequisite or co-requisite: Chemistry 3512

**Rationale:** The course was created with the expectation that, in combination with Chemistry 3512, it would replace Chemistry 3510. The material is the same in the courses, so students should not receive credit for both courses. The pre-requisite was assigned in error.

**Date of departmental approval:** February 14, 2012

**Effective Date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites and description

#### From:

#### **3512 Organic Chemistry I Laboratory**

4 hours laboratory; 2 credits

An introduction to basic laboratory skills of organic chemistry including distillation, synthesis, and purification techniques such as column chromatography.

Prerequisite: Chemistry 2100

Prerequisite or co-requisite: ~~Chemistry 3510~~ or 3511

#### To:

#### **3512 Organic Chemistry I Laboratory**

4 hours laboratory; 2 credits

An introduction to basic laboratory skills of organic chemistry including distillation, synthesis, and purification techniques such as column chromatography. (Students who have taken Chemistry 2500 or 3510 will lose credit for Chemistry 2500 and 3510 upon successful completion of this course.)

Prerequisite: Chemistry 2100

Prerequisite or co-requisite: Chemistry 3511

**Rationale:** The course was created with the expectation that, in combination with Chemistry 3511, it would replace Chemistry 3510. The material is the same in the courses, so students should not receive credit for both courses. Likewise, there is sufficient overlap with material covered in Chem 2500 that students should not receive credit for both courses.

**Date of departmental approval:** February 14, 2012

**Effective Date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites and description

#### From:

#### **3520 Organic Chemistry II**

1 hour recitation, 2 hours lecture, 4 hours laboratory; 5 credits

Continuation of Chemistry 3510.

Prerequisite: Chemistry 3510.

#### To:

#### **3520 Organic Chemistry II**

1 hour recitation, 2 hours lecture, 4 hours laboratory; 5 credits

Continuation of Chemistry 3510 or both 3511 and 3512.

Prerequisite: Chemistry 3510 or both 3511 and 3512.

**Rationale:** Two courses, Chemistry 3511 (lecture/recitation) and Chemistry 3512 (laboratory) will replace Chemistry 3510.

**Date of departmental approval:** February 14, 2012

**Effective Date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in description

#### From:

#### **3521 Organic Chemistry II Lecture**

3 hours lecture, 1 hour recitation; 3 credits

Continuation of Chemistry 3511. Different classes of compounds, including biomolecules and polymers, with a greater emphasis on reaction mechanisms and synthesis. A second semester of a two-semester sequence intended for students interested in science and in health professional programs including medical, dental and pharmacy school. (Students who have taken Chemistry 2500 will lose credit for Chemistry 2500 upon successful completion of this course.)

Prerequisite: Chemistry 3511 and Chemistry 3512; or Chemistry 3510

Prerequisite or co-requisite: Chemistry 3522

#### To:

#### **3521 Organic Chemistry II Lecture**

3 hours lecture, 1 hour recitation; 3 credits

Continuation of Chemistry 3511. Different classes of compounds, including biomolecules and polymers, with a greater emphasis on reaction mechanisms and synthesis. A second semester of a two-semester sequence intended for students interested in science and in health professional programs including medical, dental and pharmacy school. (Students who have taken Chemistry 2500 or Chemistry 3520 will lose credit for Chemistry 2500 and 3520 upon successful completion of this course.)

Prerequisite: Chemistry 3511 and Chemistry 3512; or Chemistry 3510

Prerequisite or co-requisite: Chemistry 3522

**Rationale:** The course was created with the expectation that, in combination with Chemistry 3522, it would replace Chemistry 3520. The material is the same in the courses, so students should not receive credit for both courses. Likewise, there is sufficient overlap with material covered in Chem 2500 that students should not receive credit for both courses.

**Date of departmental approval:** February 14, 2012

**Effective Date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites and description

#### From:

#### **3522 Organic Chemistry II Laboratory**

4 hours laboratory; 2 credits

An introduction to basic laboratory skills of organic chemistry. Emphasis is placed on qualitative analysis and spectroscopic identification of compounds.

Prerequisite or Corequisite: Chemistry ~~3520~~ or 3521.

#### To:

#### **3522 Organic Chemistry II Laboratory**

4 hours laboratory; 2 credits

An introduction to basic laboratory skills of organic chemistry. Emphasis is placed on qualitative analysis and spectroscopic identification of compounds. (Students who have taken Chemistry 2500 or Chemistry 3520 will lose credit for Chemistry 2500 or 3520 upon successful completion of this course.)

Prerequisite or Corequisite: Chemistry 3521.

**Rationale:** The course was created with the expectation that, in combination with Chemistry 3521, it would replace Chemistry 3520. The material is the same in the courses, so students should not receive credit for both courses. Likewise, there is sufficient overlap with material covered in Chem 2500 that students should not receive credit for both courses. The pre-requisite was assigned in error.

**Date of departmental approval:** February 14, 2012

**Effective Date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

#### **4530 Advanced Organic Laboratory Techniques**

2 hours lecture, 6 hours laboratory; 5 credits

Elucidation of the structures of organic compounds by spectrometric methods. Separation, purification, and identification of the components of mixtures. Synthesis of compounds utilizing modern methods.

Prerequisite: Chemistry 3410 or 3415W and 3520.

#### To:

#### **4530 Advanced Organic Laboratory Techniques**

2 hours lecture, 6 hours laboratory; 5 credits

Elucidation of the structures of organic compounds by spectrometric methods. Separation, purification, and identification of the components of mixtures. Synthesis of compounds utilizing modern methods.

Prerequisites: Chemistry 3410 or 3415W; 3520 or both 3521 and 3522.

**Rationale:** Effective Fall 2012, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and chemistry 3522 (a laboratory course). A single section of chemistry 3520 will continue to be offered for those students who have taken chemistry 3520 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3520) or by completing the new laboratory course (3522) in addition to the new lecture course (3521).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

#### **4550 Advanced Organic Chemistry**

3 hours lecture; 3 credits

Intensive study of organic reaction mechanisms including topics of current interest.  
Prerequisite: Chemistry 3520.

#### To:

#### **4550 Advanced Organic Chemistry**

3 hours lecture; 3 credits

Intensive study of organic reaction mechanisms including topics of current interest.  
Prerequisite: Chemistry 3520 or both 3521 and 3522.

**Rationale:** Effective Fall 2012, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and chemistry 3522 (a laboratory course). A single section of chemistry 3520 will continue to be offered for those students who have taken chemistry 3520 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3520) or by completing the new laboratory course (3522) in addition to the new lecture course (3521).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

##### **4570 Biochemistry I**

3 hours lecture, 4 hours laboratory; 5 credits

Properties and reactions of compounds of biological importance. Oxygen-transport proteins. Enzyme kinetics and mechanisms. Basic immunology. Biological membranes. DNA replication, mutation, and repair. Transcription and the Genetic Code. Protein biosynthesis. Laboratory work emphasizes basic biochemical skills. (Not open to students who are enrolled in or have completed Chemistry 4571.)

Prerequisite: Chemistry 3410 or 3415W, or Biology 2074 or ~~Biology~~ 1002.

Prerequisite or corequisite: Chemistry 3520.

#### To:

##### **4570 Biochemistry I**

3 hours lecture, 4 hours laboratory; 5 credits

Properties and reactions of compounds of biological importance. Oxygen-transport proteins. Enzyme kinetics and mechanisms. Basic immunology. Biological membranes. DNA replication, mutation, and repair. Transcription and the Genetic Code. Protein biosynthesis. Laboratory work emphasizes basic biochemical skills. (Not open to students who are enrolled in or have completed Chemistry 4571 [57.1].)

Prerequisite: Chemistry 3410 or 3415W, or Biology 2074 or 1002.

Prerequisite or corequisite: Chemistry 3520 or both 3521 and 3522.

**Rationale:** Effective Fall 2012, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and chemistry 3522 (a laboratory course). A single section of chemistry 3520 will continue to be offered for those students who have taken chemistry 3520 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3520) or by completing the new laboratory course (3522) in addition to the new lecture course (3521).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

#### **4571 Biochemistry I Lectures**

3 hours; 3 credits

This course is the same as Chemistry 4570, but without laboratory work. (Not open to students who are enrolled in or have completed Chemistry 4570.)

Prerequisite: Chemistry 3520.

#### To:

#### **4571 Biochemistry I Lectures**

3 hours ; 3 credits

This course is the same as Chemistry 4570, but without laboratory work. (Not open to students who are enrolled in or have completed Chemistry 4570.)

Prerequisite: Chemistry 3520 or both 3521 and 3522.

**Rationale:** Effective Fall 2012, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and chemistry 3522 (a laboratory course). A single section of chemistry 3520 will continue to be offered for those students who have taken chemistry 3520 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3520) or by completing the new laboratory course (3522) in addition to the new lecture course (3521).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

#### **4780 Environmental Chemistry**

3 hours lecture; 3 credits

Principles of chemistry applied to problems of the environment. Sources, reactions, effects of chemical species on the environment. General and specific problems of analysis, interpretation of results, and pollution control. Methods and impact of energy production.

Prerequisite: Chemistry 3410 or 3415W ~~and~~ 3520.

#### To:

#### **4780 Environmental Chemistry**

3 hours lecture; 3 credits

Principles of chemistry applied to problems of the environment. Sources, reactions, effects of chemical species on the environment. General and specific problems of analysis, interpretation of results, and pollution control. Methods and impact of energy production.

Prerequisites: Chemistry 3410 or 3415W; Chemistry 3520 or both 3521 and 3522.

**Rationale:** Effective Fall 2012, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and chemistry 3522 (a laboratory course). A single section of chemistry 3520 will continue to be offered for those students who have taken chemistry 3520 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3520) or by completing the new laboratory course (3522) in addition to the new lecture course (3521).

**Date of approval by Department of Chemistry:** February 14, 2012

**Effective date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### FROM:

##### **5010 Research I**

Minimum of 6 hours conference and independent work§; 2 credits

Planning and carrying out a research problem under supervision of a faculty member. Weekly conference. Written and oral reports. Students may not receive credit for more than three terms of undergraduate research.

Prerequisite: Chemistry 3410 or 3415W, and 3520, and permission of the instructor and the chairperson.

#### TO:

##### **5010 Research I**

Minimum of 6 hours conference and independent work§; 2 credits

Planning and carrying out a research problem under supervision of a faculty member. Weekly conference. Written and oral reports. Students may not receive credit for more than three terms of undergraduate research.

Prerequisites: Chemistry 3410 or 3415W; Chemistry 3520 or both 3521 and 3522; and permission of the instructor and the chairperson.

**Rationale:** Effective Fall 2012, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and chemistry 3522 (a laboratory course). A single section of chemistry 3520 will continue to be offered for those students who have taken chemistry 3520 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3520) or by completing the new laboratory course (3522) in addition to the new lecture course (3521).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

##### **5110 Independent Research I**

Minimum of 9 hours conference and independent work§; 3 credits

Independent research supervised by a faculty member. Weekly conference. Written and oral report. Students may not receive credit for more than three terms of undergraduate research.

Prerequisite of 5110: Chemistry 3410 or 3415W, 3520, an index of 3.30 or higher in chemistry, and permission of the instructor and the chairperson.

#### To:

##### **5110 Independent Research I**

Minimum of 9 hours conference and independent work§; 3 credits

Independent research supervised by a faculty member. Weekly conference. Written and oral report. Students may not receive credit for more than three terms of undergraduate research.

Prerequisite of 5110: Chemistry 3410 or 3415W; 3520 or both 3521 and 3522; an index of 3.30 or higher in chemistry; and permission of the instructor and the chairperson.

**Rationale:** Effective Fall 2012, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and chemistry 3522 (a laboratory course). A single section of chemistry 3520 will continue to be offered for those students who have taken chemistry 3520 in the past, and are retaking this course with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture course (3520) or by completing the new laboratory course (3522) in addition to the new lecture course (3521).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Chemistry

Change in prerequisites

#### From:

#### **5400 Industrial Internship in Chemistry**

9 hours fieldwork; 2 credits

Off-campus internship in a commercial or government organization, supervised by a faculty member. Positions and assigned tasks will vary depending on the needs of the host institution, but will make extensive use of chemical knowledge and skills. A final report will be required.

Prerequisite or Corequisite: Chemistry 3510, and either Chemistry 3520, or Chemistry 3410, or 3415W. A minimum GPA of 2.3 or better within Chemistry courses is also required.

#### To:

#### **5400 Industrial Internship in Chemistry**

9 hours fieldwork; 2 credits

Off-campus internship in a commercial or government organization, supervised by a faculty member. Positions and assigned tasks will vary depending on the needs of the host institution, but will make extensive use of chemical knowledge and skills. A final report will be required.

Prerequisites or Corequisites: Chemistry 3510 or both 3511 and 3522, and either Chemistry 3520, or both 3521 and 3522, or Chemistry 3410, or Chemistry 3415W. A minimum GPA of 2.3 or better within Chemistry courses is also required.

**Rationale:** Effective Fall 2012, chemistry 3510 (a combined laboratory and lecture course) is being replaced by chemistry 3511 (a lecture course) and chemistry 3512 (a laboratory course). Similarly, chemistry 3520 (a combined laboratory and lecture course) is being replaced by chemistry 3521 (a lecture course) and 3522 (a laboratory course). A single section of chemistry 3510 and 3520 will continue to be offered for those students who have taken chemistry 3510 and 3520 in the past, and are retaking these courses with a department approved lab exemption. Therefore, students can complete the prerequisites by completing either the old, combined laboratory and lecture courses (3510 and 3520) or by completing the new laboratory courses (3512 and 3522) in addition to the new lecture courses (3511 and 3521).

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Classics

Changes in hours and credits

#### FROM:

#### **4010 Democracy and Imperialism: Athens in the Fifth Century BC**

~~3 hours; 3 credits~~

The development of Athenian ideas about democracy and empire in the fifth century through a study of the literature of the period. Emphasis on research methodologies. (Not open to students who have completed Classics 18.)

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

#### TO:

#### **4010 Democracy and Imperialism: Athens in the Fifth Century BC**

3 classroom hours plus conference and independent research; 4 credits

The development of Athenian ideas about democracy and empire in the fifth century through a study of the literature of the period. Emphasis on research methodologies. (Not open to students who have completed Classics 18.)

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

**Rationale:** What distinguishes the learning outcomes of the department's 4000-level courses from those of its elective courses at the 3000 level is the emphasis on the teaching and learning of research methods: this requires time-intensive, carefully designed weekly instructional activity throughout the semester, building up to the culminating experience of a substantial research paper. More than that, it has become clear that in order to enable students better to achieve these learning outcomes, instructor-student conferences are needed throughout the semester, in addition to the three hours of weekly classroom sessions. The model of instructor-student conferences in addition to the regularly scheduled classroom hours has worked well in CLAS 4900, Capstone Seminar, and in other courses across the college. The Classics Department now wishes to apply this model to all of its 4000-level courses.

Independent Study courses across the college specify "a minimum of 9 contact hours per semester and independent work" and give the student 3 credits (e.g. CLAS 5100, POLS 5001, PRLS 5715). Classics 4000-level courses will now require a minimum of 9 contact hours per semester in the form of instructor-student conference, in addition to

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the 3 weekly classroom hours. The added contact hours more than justify the 1 additional student credit.

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**Effective date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Classics

Changes in hours and credits

#### FROM:

#### **4012 Delphi and Apollo: The Oracle and the Site**

~~3 hours; 3 credits~~

The religious, historical, and social significance of Apollo's shrine at Delphi. Literary and archaeological evidence. Athletic festivals held on the site. Emphasis on research methodologies. (Not open to students who have completed Classics 17.)

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

#### TO:

#### **4012 Delphi and Apollo: The Oracle and the Site**

3 classroom hours plus conference and independent research; 4 credits

The religious, historical, and social significance of Apollo's shrine at Delphi. Literary and archaeological evidence. Athletic festivals held on the site. Emphasis on research methodologies. (Not open to students who have completed Classics 17.)

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

**Rationale:** What distinguishes the learning outcomes of the department's 4000-level courses from those of its elective courses at the 3000 level is the emphasis on the teaching and learning of research methods: this requires time-intensive, carefully designed weekly instructional activity throughout the semester, building up to the culminating experience of a substantial research paper. More than that, it has become clear that in order to enable students better to achieve these learning outcomes, instructor-student conferences are needed throughout the semester, in addition to the three hours of weekly classroom sessions. The model of instructor-student conferences in addition to the regularly scheduled classroom hours has worked well in CLAS 4900, Capstone Seminar, and in other courses across the college. The Classics Department now wishes to apply this model to all of its 4000-level courses.

Independent Study courses across the college specify "a minimum of 9 contact hours per semester and independent work" and give the student 3 credits (e.g. CLAS 5100, POLS 5001, PRLS 5715). Classics 4000-level courses will now require a minimum of 9 contact hours per semester in the form of instructor-student conference, in addition to

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the 3 weekly classroom hours. The added contact hours more than justify the 1 additional student credit.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Classics**

Changes in hours and credits

#### **FROM:**

#### **4020 Julio-Claudian Rome: City of Empire**

~~3 hours; 3 credits~~

Establishment of a dynasty. Literary and historiographical reflections of empire. Changes in the urban environment and provincial landscape: housing, public buildings, monuments, boundaries, land use. Developments in the social hierarchy: slavery, class issues, role of women, ethnic and religious minorities. Emphasis on research methodologies.

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

#### **TO:**

#### **CLAS 4020 Julio-Claudian Rome: City of Empire**

3 classroom hours plus conference and independent research; 4 credits

Establishment of a dynasty. Literary and historiographical reflections of empire. Changes in the urban environment and provincial landscape: housing, public buildings, monuments, boundaries, land use. Developments in the social hierarchy: slavery, class issues, role of women, ethnic and religious minorities. Emphasis on research methodologies.

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

**Rationale:** What distinguishes the learning outcomes of the department's 4000-level courses from those of its elective courses at the 3000 level is the emphasis on the teaching and learning of research methods: this requires time-intensive, carefully designed weekly instructional activity throughout the semester, building up to the culminating experience of a substantial research paper. More than that, it has become clear that in order to enable students better to achieve these learning outcomes, instructor-student conferences are needed throughout the semester, in addition to the three hours of weekly classroom sessions. The model of instructor-student conferences in addition to the regularly scheduled classroom hours has worked well in CLAS 4900, Capstone Seminar, and in other courses across the college. The Classics Department now wishes to apply this model to all of its 4000-level courses.

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Independent Study courses across the college specify “a minimum of 9 contact hours per semester and independent work” and give the student 3 credits (e.g. CLAS 5100, POLS 5001, PRLS 5715). Classics 4000-level courses will now require a minimum of 9 contact hours per semester in the form of instructor-student conference, in addition to the 3 weekly classroom hours. The added contact hours more than justify the 1 additional student credit.

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## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Classics**

Changes in hours and credits

#### **FROM:**

#### **4030 Ancient Cities**

~~3 hours; 3 credits~~

Development of urban culture in the ancient Mediterranean world. Surveys of societal changes brought about by urbanization, negotiation of secular and sacred space, political transformations, and development of new technologies. Focus on archaeological, textual, numismatic, and epigraphical evidence. Emphasis on research methodologies.

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

#### **TO:**

#### **4030 Ancient Cities**

3 classroom hours plus conference and independent research; 4 credits

Development of urban culture in the ancient Mediterranean world. Surveys of societal changes brought about by urbanization, negotiation of secular and sacred space, political transformations, and development of new technologies. Focus on archaeological, textual, numismatic, and epigraphical evidence. Emphasis on research methodologies.

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

**Rationale:** What distinguishes the learning outcomes of the department's 4000-level courses from those of its elective courses at the 3000 level is the emphasis on the teaching and learning of research methods: this requires time-intensive, carefully designed weekly instructional activity throughout the semester, building up to the culminating experience of a substantial research paper. More than that, it has become clear that in order to enable students better to achieve these learning outcomes, instructor-student conferences are needed throughout the semester, in addition to the three hours of weekly classroom sessions. The model of instructor-student conferences in addition to the regularly scheduled classroom hours has worked well in CLAS 4900, Capstone Seminar, and in other courses across the college. The Classics Department now wishes to apply this model to all of its 4000-level courses.

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Independent Study courses across the college specify “a minimum of 9 contact hours per semester and independent work” and give the student 3 credits (e.g. CLAS 5100, POLS 5001, PRLS 5715). Classics 4000-level courses will now require a minimum of 9 contact hours per semester in the form of instructor-student conference, in addition to the 3 weekly classroom hours. The added contact hours more than justify the 1 additional student credit.

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Classics

Changes in hours and credits

#### FROM:

#### **4031 Approaches to Greek and Latin Poetry**

~~3 hours; 3 credits~~

Ancient and modern approaches to literature in general and poetry in particular. Study of characteristic features of ancient Greek and Latin poetry, such as intertextuality and metapoetry. Readings will include selections from modern introductions to literary theory, Plato's Republic, Aristotle's Poetics and Horace's Ars Poetica, and relevant Greek and Latin poetic texts in English translation. Emphasis on research methodologies.

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

#### TO:

#### **CLAS 4031 Approaches to Greek and Latin Poetry**

3 classroom hours plus conference and independent research; 4 credits

Ancient and modern approaches to literature in general and poetry in particular. Study of characteristic features of ancient Greek and Latin poetry, such as intertextuality and metapoetry. Readings will include selections from modern introductions to literary theory, Plato's Republic, Aristotle's Poetics and Horace's Ars Poetica, and relevant Greek and Latin poetic texts in English translation. Emphasis on research methodologies.

Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

**Rationale:** What distinguishes the learning outcomes of the department's 4000-level courses from those of its elective courses at the 3000 level is the emphasis on the teaching and learning of research methods: this requires time-intensive, carefully designed weekly instructional activity throughout the semester, building up to the culminating experience of a substantial research paper. More than that, it has become clear that in order to enable students better to achieve these learning outcomes, instructor-student conferences are needed throughout the semester, in addition to the three hours of weekly classroom sessions. The model of instructor-student conferences in addition to the regularly scheduled classroom hours has worked well in CLAS 4900,

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Capstone Seminar, and in other courses across the college. The Classics Department now wishes to apply this model to all of its 4000-level courses.

Independent Study courses across the college specify “a minimum of 9 contact hours per semester and independent work” and give the student 3 credits (e.g. CLAS 5100, POLS 5001, PRLS 5715). Classics 4000-level courses will now require a minimum of 9 contact hours per semester in the form of instructor-student conference, in addition to the 3 weekly classroom hours. The added contact hours more than justify the 1 additional student credit.

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## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Classics

Changes in hours and credits

#### FROM:

#### **4032 Gender and Sexuality in Ancient Greece and Rome**

~~3 hours; 3 credits~~

An exploration into the ways in which individual sexual experience was categorized and evaluated by society in the ancient world, with special attention to questions of gender role, sexual orientation, and the intersection of the personal and the political. Evidence from such literary and nonliterary sources as lyric poetry, epigram, drama, oratory, history, philosophy, epigraphy, and the visual arts. Emphasis on research methodologies. (Not open to students who have completed Classics or 4032  
Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

#### TO:

#### **4032 Gender and Sexuality in Ancient Greece and Rome**

3 classroom hours plus conference and independent research; 4 credits

An exploration into the ways in which individual sexual experience was categorized and evaluated by society in the ancient world, with special attention to questions of gender role, sexual orientation, and the intersection of the personal and the political. Evidence from such literary and nonliterary sources as lyric poetry, epigram, drama, oratory, history, philosophy, epigraphy, and the visual arts. Emphasis on research methodologies. (Not open to students who have completed Classics or 4032.)  
Prerequisite: English 1012 and at least sophomore standing; or permission of the chairperson.

**Rationale:** What distinguishes the learning outcomes of the department's 4000-level courses from those of its elective courses at the 3000 level is the emphasis on the teaching and learning of research methods: this requires time-intensive, carefully designed weekly instructional activity throughout the semester, building up to the culminating experience of a substantial research paper. More than that, it has become clear that in order to enable students better to achieve these learning outcomes, instructor-student conferences are needed throughout the semester, in addition to the three hours of weekly classroom sessions. The model of instructor-student conferences in addition to the regularly scheduled classroom hours has worked well in CLAS 4900, Capstone Seminar, and in other courses across the college. The Classics Department now wishes to apply this model to all of its 4000-level courses.

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

Independent Study courses across the college specify “a minimum of 9 contact hours per semester and independent work” and give the student 3 credits (e.g. CLAS 5100, POLS 5001, PRLS 5715). Classics 4000-level courses will now require a minimum of 9 contact hours per semester in the form of instructor-student conference, in addition to the 3 weekly classroom hours. The added contact hours more than justify the 1 additional student credit.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Earth and Environmental Sciences**

Changes in prerequisite and exclusion

#### **FROM:**

##### **2100 Mineralogy**

2 hours lecture, 4 hours laboratory; 4 credits

Crystallographic, chemical, and physical properties of minerals with emphasis on crystal structure. Introduction to recognition of minerals using transmitted light and X-ray diffraction analysis. Laboratory work includes one or more field trips. ~~(Not open to students who have completed Geology 17.)~~

~~Prerequisite: Geology or Earth and Environmental Sciences 1100 [1] or equivalent.~~

~~Prerequisite or corequisite: Chemistry 1100 [1].~~

#### **TO:**

##### **2100 Mineralogy**

2 hours lecture, 4 hours laboratory; 4 credits

Crystallographic, chemical, and physical properties of minerals with emphasis on crystal structure. Introduction to recognition of minerals using transmitted light and X-ray diffraction analysis. Laboratory work includes one or more field trips.

Prerequisite: Earth and Environmental Sciences 1101

Prerequisite or corequisite: Chemistry 1100.

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Earth and Environmental Sciences**

Changes in hours and credits, bulletin description, exclusion, and prerequisite

#### **FROM:**

#### **2200 Sedimentology and Sedimentary Petrology**

2 hours lecture, ~~2~~ hours laboratory; ~~3~~ credits

Sediments and sedimentary rocks, their conditions of formation, basis of classifications; methods of mechanical, chemical, mineralogic, graphic, and statistical analysis, ~~including~~ binocular and petrographic microscopy; application of paleodirectional structures. Laboratory work includes one or more field trips. (~~Not open to students who have completed Geology 36.1 or 37.1.~~)

Prerequisite or corequisite: ~~Geology or Earth and Environmental Sciences 1100 [1] or equivalent.~~

#### **TO:**

#### **2200 Sedimentology and Sedimentary Petrology**

2 hours lecture, 4 hours laboratory; 4 credits

Sediments and sedimentary rocks, their conditions of formation, basis of classifications; methods of mechanical, chemical, mineralogic, graphic, and statistical analysis, stressing binocular and petrographic microscopy; application of paleodirectional structures. Laboratory work includes one or more field trips.

Prerequisite or corequisite: Earth and Environmental Sciences 1101

**Rationale:** EESC 2200 has been increased in time and credits to allow for additional time for students to develop expertise with polarized light microscopes and their application to sedimentary rocks. This essential equipment has a steep learning curve. The course restriction is no longer necessary since the stated courses have not been offered in over 15 years.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Earth and Environmental Sciences

Changes in title, bulletin description, exclusion, and prerequisite

#### FROM:

#### **2300 Structural Geology**

2 hours lecture, 2 hours laboratory; 3 credits

Mechanical properties of rocks; rock deformation; folds; faults; joints; igneous, sedimentary, and metamorphic structures; ~~diapirs and salt domes~~. Laboratory work includes structural maps and cross sections, stereographic projections ~~and one or more field trips involving use of the Brunton compass. (Not open to students who have completed Geology 41.)~~

Prerequisite: ~~Geology or Earth and Environmental Sciences 1100.~~

Prerequisite or corequisite: ~~Geology or Earth and Environmental Sciences 1200 or permission of the chairperson.~~

#### TO:

#### **2300 Structural Geology and Field Analysis**

2 hours lecture, 2 hours laboratory; 3 credits

Mechanical properties of rocks; rock deformation; folds; faults; joints; igneous, sedimentary, and metamorphic structures. Laboratory work includes structural maps and cross sections, stereographic projections and field-based analysis and documentation of deformed sedimentary and metamorphic rocks.

Prerequisite: Earth and Environmental Sciences 1101

**Rationale:** The course is a prerequisite for 3850 (Field Mapping). Fundamentals of field analysis such as measuring structures with a compass, describing structures in the field, and deciphering geological histories from field evidence are integral to the course. The change in name and description make clearer the strong field component of this course. The course restriction is no longer necessary since the stated courses have not been offered in over 15 years.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Earth and Environmental Sciences**

Changes in prerequisite and exclusion

#### **FROM:**

#### **3000 Igneous and Metamorphic Petrology**

2 hours lecture, 4 hours laboratory; 4 credits

Occurrence, classification, evolution, and origin of igneous and metamorphic rocks; plate tectonic associations; phase diagrams and their use in petrogenesis; origin, evolution, and emplacement of magmas; metamorphic belts; laboratory work includes petrographic study of rock in thin section, hand specimen, and in the field. Laboratory work includes one or more field trips. (~~Not open to students who have completed Geology 13.5.~~)

Prerequisite: ~~Geology~~ or Earth and Environmental Sciences 2100 or ~~equivalent~~

#### **TO:**

#### **3000 Igneous and Metamorphic Petrology**

2 hours lecture, 4 hours laboratory; 4 credits

Occurrence, classification, evolution, and origin of igneous and metamorphic rocks; plate tectonic associations; phase diagrams and their use in petrogenesis; origin, evolution, and emplacement of magmas; metamorphic belts; laboratory work includes petrographic study of rock in thin section, hand specimen, and in the field. Laboratory work includes one or more field trips.

Prerequisite: Earth and Environmental Sciences 2100 or 2200

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Earth and Environmental Sciences**

Changes in prerequisite and exclusion

#### **FROM:**

#### **3100 Introduction to Geochemistry**

3 hours; 3 credits

Survey of geochemistry including chemical and isotopic abundances; geochemistry of rocks and natural waters; introduction to thermodynamics, crystal chemistry, and organic geochemistry. (~~Not open to students who are enrolled in or have completed Chemistry 77 or Geology 77.~~)

Prerequisite or corequisite: ~~Geology or~~ Earth and Environmental Sciences 4400 or Core Curriculum 1322; or permission of the chairperson.

#### **TO:**

#### **3100 Introduction to Geochemistry**

3 hours; 3 credits

Survey of geochemistry including chemical and isotopic abundances; geochemistry of rocks and natural waters; introduction to thermodynamics, crystal chemistry, and organic geochemistry.

Prerequisite or corequisite: Earth and Environmental Sciences 1101 or Core Curriculum 1322; or permission of the chairperson.

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012



## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Earth and Environmental Sciences**

Changes in prerequisite

#### **FROM:**

#### **3200 General Geophysics**

3 hours; 3 credits

Study of the gravitational, magnetic, seismic, and electrical principles involved in geophysics; geophysical exploration; earthquakes; structure and composition of the earth's crust and interior; geodesy; submarine geophysics.

Prerequisite: Physics 2100 or 2150 or ~~Geology~~ or Earth and Environmental Sciences 4400 or permission of the chairperson.

#### **TO:**

#### **3200 General Geophysics**

3 hours; 3 credits

Study of the gravitational, magnetic, seismic, and electrical principles involved in geophysics; geophysical exploration; earthquakes; structure and composition of the earth's crust and interior; geodesy; submarine geophysics.

Prerequisite: Physics 2100 or 2150 or Earth and Environmental Sciences 1101 or permission of the chairperson.

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Earth and Environmental Sciences

Changes in prerequisite and exclusion

#### FROM:

##### **3300 Invertebrate Paleontology**

2 hours lecture, 2 hours laboratory; 3 credits

Paleobiology, paleoecology, classification, and biostratigraphy of fossil invertebrates. Laboratory work in collection, identification, and preparation techniques. Includes one or more field trips. (~~Not open to students who have completed Geology 31 or 39.3.~~)

Prerequisite: ~~Geology~~ or Earth and Environmental Sciences 4200; or Biology 4080 and Core Curriculum 1332; or permission of the instructor.

#### TO:

##### **3300 Invertebrate Paleontology**

2 hours lecture, 2 hours laboratory; 3 credits

Paleobiology, paleoecology, classification, and biostratigraphy of fossil invertebrates. Laboratory work in collection, identification, and preparation techniques. Includes one or more field trips.

Prerequisite: Earth and Environmental Sciences 1101 ; or Biology 1001 and Core Curriculum 1332; or permission of the instructor.

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Earth and Environmental Sciences

Changes in prerequisite

#### FROM:

#### **3400W Geological Problems and Opportunities in Urban Areas**

2 hours lecture, 2 hours laboratory; 3 credits

Geologic aspects of environmental problems and opportunities of urban areas: water supply, waste disposal, construction materials, foundations, ground stability, stream floods, and coastal processes. Geology and urban and regional planning. Geology and the origin, evolution and future of cities. Laboratory work includes the construction and use of observational and judgmental maps. Writing-intensive course.

Prerequisites: ~~Geology or Earth and Environmental Sciences 4400~~ (or permission of the chairperson), ~~4200~~, English 1012, plus nine credits of Geology or Earth and Environmental Sciences courses numbered 2000 or above.

#### TO:

#### **3400W Geological Problems and Opportunities in Urban Areas**

2 hours lecture, 2 hours laboratory; 3 credits

Geologic aspects of environmental problems and opportunities of urban areas: water supply, waste disposal, construction materials, foundations, ground stability, stream floods, and coastal processes. Geology and urban and regional planning. Geology and the origin, evolution and future of cities. Laboratory work includes the construction and use of observational and judgmental maps. Writing-intensive course.

Prerequisites: Earth and Environmental Sciences 1101 or permission of the chairperson), 1201, English 1012, plus nine credits of Geology or Earth and Environmental Sciences courses numbered 2000 or above.

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

**SECTION A-V: CHANGES IN EXISTING COURSES**

**Department of Earth and Environmental Sciences**

Changes in prerequisite and exclusion

**FROM:**

**3450 Economic Geology and Energy Resources**

3 hours lecture; 3 credits

Earth's mineral and energy resources; their occurrence, associations, genesis, recovery, and use. (~~Not open to students who have completed Geology 17.2 or 21.~~)

Prerequisite: ~~Geology or Earth and Environmental Sciences 4400.~~

**TO:**

**3450 Economic Geology and Energy Resources**

3 hours lecture; 3 credits

Earth's mineral and energy resources; their occurrence, associations, genesis, recovery, and use.

Prerequisite: Earth and Environmental Sciences 1101

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Earth and Environmental Sciences

Changes in prerequisite and exclusion

#### FROM:

#### **3600 Hydrogeology of Water Resources**

2 hours lecture, 2 hours laboratory and fieldwork; 3 credits

\The global hydrologic cycle and its interrelations with climates, soils, and vegetation. Physical properties of surface and groundwater flow. Hydrologic analysis of surface water and groundwater resource management, groundwater geology. Major waste resource quantity and quality issues in the United States. Numerical calculations and problems will be emphasized. Discussion of case studies that describe different types of hydrologic systems and the development and management of groundwater resources. Supervised fieldwork in determining the extent of groundwater contamination. ~~(Not open to students who have completed Geology 4000 [70.1] in spring, 1988.)~~

Prerequisite: ~~Geology or Earth and Environmental Sciences 4400 [4].~~

#### TO:

#### **3600 Hydrogeology of Water Resources**

2 hours lecture, 2 hours laboratory and fieldwork; 3 credits

The global hydrologic cycle and its interrelations with climates, soils, and vegetation. Physical properties of surface and groundwater flow. Hydrologic analysis of surface water and groundwater resource management, groundwater geology. Major waste resource quantity and quality issues in the United States. Numerical calculations and problems will be emphasized. Discussion of case studies that describe different types of hydrologic systems and the development and management of groundwater resources. Supervised fieldwork in determining the extent of groundwater contamination.

Prerequisite: Earth and Environmental Sciences 1101

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Earth and Environmental Sciences**

Changes in prerequisite

#### **FROM:**

#### **3800 Statistics and Data Analysis in Geosciences**

3 hours lecture; 3 credits

Introduction to descriptive statistics in geological and geophysical contexts such as population and samples, random sampling, probability, normal distribution, types of errors; to the science of statistics description. Making inferences from numbers measured on samples, such as linear regression, analysis of variance, multiple regression, polynomial regression, cluster analysis. Data analysis in earth sciences presented on four different scales (nominal, ordinal, interval, and ratio). Graphical and numerical techniques for representation and analysis. Most examples will be worked using popular software, such as EXCEL(r), MINITAB(r), STATISTICA(r), ORIGIN(r) or MATLAB(r).

Prerequisite: ~~Geology or Earth and Environmental Sciences 4400 or 4200.~~

#### **TO:**

#### **3800 Statistics and Data Analysis in Geosciences**

3 hours lecture; 3 credits

Introduction to descriptive statistics in geological and geophysical contexts such as population and samples, random sampling, probability, normal distribution, types of errors; to the science of statistics description. Making inferences from numbers measured on samples, such as linear regression, analysis of variance, multiple regression, polynomial regression, cluster analysis. Data analysis in earth sciences presented on four different scales (nominal, ordinal, interval, and ratio). Graphical and numerical techniques for representation and analysis. Most examples will be worked using popular software, such as EXCEL(r), MINITAB(r), STATISTICA(r), ORIGIN(r) or MATLAB(r).

Prerequisite: Earth and Environmental Sciences 1101 or 1201

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## SECTION A-V: CHANGES IN EXISTING COURSES

### Department of Earth and Environmental Sciences

Changes in hours and credits, bulletin description, exclusion, and prerequisite

#### FROM:

##### **3850 Field Mapping**

120-hours supervised field and laboratory work; 4 credits

Approximately ~~three to four weeks~~ of supervised field and laboratory work in the ~~Folded Appalachians or another region~~. Field preparation of geologic maps and sections by means of the Brunton compass, topographic base maps and remotely sensed data, ~~aerial photographs of the region selected~~. Required final report including maps, sections, description of ~~physiography~~, stratigraphy, and structure. Expenses approximately \$500. ~~(Not open to students who are enrolled in or have completed Geology 12.1.) Summer session.~~

Prerequisite: ~~Geology or~~ Earth and Environmental Sciences 4200, 2300; or permission of the chairperson.

#### TO:

##### **3850 Field Mapping**

1 hour lecture, 4 hours supervised field and laboratory work; 3 credits

Approximately 10 days of supervised field and laboratory work in deformed sedimentary sequences. Field preparation of geologic maps and sections by means of the Brunton compass, topographic base maps and remotely sensed data. Application of GIS. Required final report including maps, sections, description of stratigraphy and structure. Expenses approximately \$1000

Prerequisite: Earth and Environmental Sciences 1101, 2300, 3350, 3750; or permission of the chairperson.

**Rationale:** 3850 is a travel-based course that requires transportation of students with vans. Accordingly, the ratio of student to instructor can be no greater than 10:1. This low enrollment, coupled with the high contact hour load of the course has made it economically unfeasible to run the course. The reduction in hours is necessary to make the course economically viable. The course restriction is no longer necessary since the stated courses have not been offered in over 15 years.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Earth and Environmental Sciences**

Changes in prerequisite and exclusion

#### **FROM:**

#### **3900 Meteorology**

3 hours; 3 credits

An introduction to weather and its causes: Earth's atmosphere and energy budget; humidity and precipitation; clouds; air pressure and wind; storms and hurricanes; weather forecasting. Climate change predictions considered from geological and historical perspective. (~~Not open to students who have completed Geology 33 or the equivalent.~~)

Prerequisite: ~~Geology or Earth and Environmental Sciences 4400~~ [1].

#### **TO:**

#### **3900 Meteorology**

3 hours; 3 credits

An introduction to weather and its causes: Earth's atmosphere and energy budget; humidity and precipitation; clouds; air pressure and wind; storms and hurricanes; weather forecasting. Climate change predictions considered from geological and historical perspective.

Prerequisite: Earth and Environmental Sciences 1101.

**Rationale:** Changes in requisites reflect the substitution of EESC 1101 and 1201 for 1100 and 1200, respectively. Course description modifications remove restrictions based on courses that have not been offered for over 15 years

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012



## **SECTION A-V: CHANGE IN AN EXISTING COURSE**

### **Department of History**

Change in bulletin description

#### **From:**

#### **3545 Women in Indian History (1800-Present)**

3 hours, 3 credits

Traces continuities and changes in women's lives in the geopolitical area of South Asia, mainly India, from the nineteenth century to the present. Effects of British colonial rule on different groups of women; women's question and nationalism; construction and transformation of gender roles; women's involvement in organizational activities, freedom struggles and other resistance movements; women and partition of India and Pakistan; women in family and state; contemporary issues related to democracy, women's rights, uniform civil code, and others.

#### **To:**

#### **3545 Women in Indian History (1800-Present)**

3 hours, 3 credits

Traces continuities and changes in women's lives in the geopolitical area of South Asia, mainly India, from the nineteenth century to the present. Effects of British colonial rule on different groups of women; women's question and nationalism; construction and transformation of gender roles; women's involvement in organizational activities, freedom struggles and other resistance movements; women and partition of India and Pakistan; women in family and state; contemporary issues related to democracy, women's rights, uniform civil code, and others. This course is the same as Women's and Gender Studies 3332.

**Rationale:** This change reflects the interdisciplinary nature of the course.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012.

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Television and Radio**

Change in course number

#### **From:**

#### **3824 Multimedia Design and Production**

1 hour lecture, 4 hours laboratory; 3 credits

Multimedia storytelling and design for cross-platform distribution. Integration of video, audio, text, and graphic elements for compelling storytelling and best aesthetic effect. Interface design and navigational considerations of interactive content.

Prerequisite: Television and Radio 2265 and 2420. Broadcast Journalism majors may, with permission of the chairperson, substitute either English 2402 or Television and Radio 3535 for both Television and Radio 2616 and 2420.

Prerequisite or corequisite: Television and Radio 2616 or 3728.

#### **To:**

#### **3841 Multimedia Design and Production**

1 hour lecture, 4 hours laboratory; 3 credits

Multimedia storytelling and design for cross-platform distribution. Integration of video, audio, text, and graphic elements for compelling storytelling and best aesthetic effect. Interface design and navigational considerations of interactive content.

Prerequisite: Television and Radio 2265 and 2420. Broadcast Journalism majors may, with permission of the chairperson, substitute either English 2402 or Television and Radio 3535 for both Television and Radio 2616 and 2420.

Prerequisite or corequisite: Television and Radio 2616 or 3728.

**Rationale:** The new number aligns with our numbering scheme for the other production courses which are 3861 (Multi-Camera Television Production) and 3871 (Single Camera Production)

**Date of departmental approval:** December 13, 2011

**Effective date of change:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Television and Radio**

Change in prerequisites

#### **From:**

##### **3925 Sound Design**

2 hours lecture, 2 hours laboratory; 3 credits

Introduction to principles of sound design for television production and sound art. Aesthetics and techniques of sound design through all stages of production: research and development through post-production. Construction of a complex soundscape in a variety of digital platforms. This course is taught as a workshop.

Prerequisite: Television and Radio ~~3824~~ or 3951 or 3861 or 3871 or permission of the Chairperson.

#### **To:**

##### **3925 Sound Design**

2 hours lecture, 2 hours laboratory; 3 credits

Introduction to principles of sound design for television production and sound art. Aesthetics and techniques of sound design through all stages of production: research and development through post-production. Construction of a complex soundscape in a variety of digital platforms. This course is taught as a workshop.

Prerequisite: Television and Radio 3841 or 3951 or 3861 or 3871 or permission of the Chairperson.

**Rationale:** This reflects a change in the course number of Multimedia Design and Production from 3824 to 3841.

**Date of departmental approval:** February 14, 2012

**Effective date of change:** Fall 2012

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Television and Radio**

Change in prerequisites

#### **From:**

#### **4430W Television and Radio Criticism**

3 hours; 3 credits

Survey of television and radio criticism. Influence of the medium and of individual programs on American Society. Writing-intensive course.

Prerequisites: Television and Radio ~~3824~~ or 3951 or 3861, or 3871 or permission of the chairperson; English \*1012.

#### **To:**

#### **4430W Television and Radio Criticism**

3 hours; 3 credits

Survey of television and radio criticism. Influence of the medium and of individual programs on American Society. Writing-intensive course.

Prerequisites: Television and Radio 3841 or 3951 or 3861, or 3871 or permission of the chairperson; English \*1012.

**Rationale:** This reflects a change in the course number of Multimedia Design and Production from 3824 to 3841.

**Date of departmental approval:** February 14, 2012

**Effective date of change:** Fall 2012

## **SECTION A-V: CHANGES IN EXISTING COURSES**

### **Department of Television and Radio**

Change in prerequisites

#### **From:**

#### **4824 Advanced Multimedia Production: New Media for Television**

1 hour lecture, 4 hours laboratory; 3 credits

Developing strategies and methodologies for creating cross-platform content for multimedia communication. Designing story architecture for interactive narratives and immersive environments, the aesthetic principles of combining CGI, conventional video, web sites, and computer based animation.

Prerequisite: Television and Radio 3824, 3871, or permission of the chair.

#### **To:**

#### **4824 Advanced Multimedia Production: New Media for Television**

1 hour lecture, 4 hours laboratory; 3 credits

Developing strategies and methodologies for creating cross-platform content for multimedia communication. Designing story architecture for interactive narratives and immersive environments, the aesthetic principles of combining CGI, conventional video, web sites, and computer based animation.

Prerequisite: Television and Radio 3841, 3871, or permission of the chair.

**Rationale:** This reflects a change in the course number of Multimedia Design and Production from 3824 to 3841.

**Date of departmental approval:** February 14, 2012

**Effective date of change:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~\*1000 Introductory Environmental Geology~~**

~~3 hours; 3 credits~~

~~Environmental aspects of atmosphere, hydrosphere, and lithosphere; living earth ecosystem; geological pollution of the atmosphere and hydrosphere and its implications; geological hazards, hostile environments, and their control; and environmental planning and management.~~

**Rationale:** This course was used to fill distribution requirements that no longer exist in education programs, and so will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~1042 The History of Life~~**

~~3 hours; 3 credits~~

~~The history of life on earth demonstrated by fossils; origin and evolution of early life forms; the oxygen revolution; the rise of animals and diversification of life; origins of vertebrates; life on land; dinosaurs and the reptile zenith; origin and diversification of mammals; primates and human ancestry; mass extinction and the future.~~

**Rationale:** This course was used to fill distribution requirements that no longer exist in education programs, and so will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

**SECTION A-VI: OTHER CHANGES**

**Department of Earth and Environmental Sciences**

Withdrawal of course

**~~\*1043 Geology of the National Parks~~**

~~3 hours; 3 credits~~

~~Geologic history, processes, and features of National Parks and wilderness areas in the United States; the role of park lands in modern society; parks as preserves and natural geologic laboratories.~~

**Rationale:** This course was used to fill distribution requirements that no longer exist in education programs, and so will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012



**SECTION A-VI: OTHER CHANGES**

**Department of Earth and Environmental Sciences**

Withdrawal of course

**~~1044 Concepts in Regional Geography~~**

~~3 hours; 3 credits~~

~~An introduction to the inter-relationships between surface geology, physiography, climate, soils and vegetation, and how the sum of these variables controls land use and other aspects of human geography.~~

~~Prerequisite: Geology or Earth and Environmental Sciences 1100 [1].~~

**Rationale:** This course was used to fill distribution requirements that no longer exist in education programs, and so will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~1045 Earth Materials~~**

~~2 hours lecture, 2 hours laboratory; 3 credits~~

~~An examination of the common materials that compose the Earth's crust and mantle.~~

~~Laboratory sessions will focus on sample identification and interpretation.~~

~~Prerequisite: Geology or Earth and Environmental Sciences 1100 [1] and 1200 [2.2].~~

**Rationale:** This course was used to fill distribution requirements that no longer exist in education programs, and so will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~\*1100 General Geology I~~**

~~3 hours lecture, 3 hours laboratory; 4½ credits~~

~~Origin of the solar system; the earth in space; earth origin; major earth processes; earth structure and materials; earth magnetism; hydrology; landforms; geologic time; climate change; earth-human interaction. Laboratory work includes study of seasons, earth motions, apparent motions of celestial bodies, minerals, rocks, terrestrial coordinates, and topographic maps; field trips.~~

**Rationale:** EESC 1100 was replaced by EESC 1101

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~\*1200 General Geology II~~**

~~3 hours lecture, 3 hours laboratory; 4 1/2 credits~~

~~Principles and concepts of geologic time; sedimentary geology; origin and evolution of the universe and its components; origin of the atmosphere and ocean; organic evolution; origin and history of life; regional geology of North America; geology of New York. Laboratory work includes the study of sedimentary rocks stratigraphy; radiometric age dating; correlation; fossils; interpretation of geologic maps and cross sections; regional geology of North America and New York. Laboratory work includes one or more field trips.~~

**Rationale:** EESC 1200 was replaced by EESC 1201.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-VI: OTHER CHANGES

### Department of Earth and Environmental Sciences

Reinstatement of inactive courses and changes in description, exclusion and prerequisites

#### FROM:

#### **3350 General Stratigraphy**

2 hours lecture, 2 hours laboratory; 3 credits

Development and history of the stratigraphic column and geologic time scales; principles of stratigraphy; stratigraphic nomenclature; sequences, correlation, and regional geologic maps and graphic representation. Laboratory work includes one or more field trips. (~~Not open to students who have completed Geology 39, 39.1, or 39.2.~~)  
*Prerequisite:* ~~Geology 2.2 or equivalent.~~

#### TO:

#### **3350 General Stratigraphy**

2 hours lecture, 2 hours laboratory; 3 credits

Development and history of the stratigraphic column and geologic time scales; principles of stratigraphy; stratigraphic nomenclature; sequences, correlation, and regional geologic maps and graphic representation; application of fossils to stratigraphic interpretation; stratigraphic units of the New York region. Laboratory work includes one or more field trips.

*Prerequisite:* Earth and environmental sciences 2200

Rationale: The expansion of the department's mission to include a broader range of environment-related courses, and expansion of expertise in this area requires the reinstatement this course that is fundamental to environmental geoscience.

Prerequisites needed to be updated. Additional focus on fossils and New York State to address needs of Earth Science teachers.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~3475 Medical Geology~~**

~~3 hours; 3 credits~~

~~Geological considerations in health hazards caused by materials of natural origin, including pollutants and radioactive substances in the solid, liquid, and gaseous realms. (Not open to students who completed Geology 4000 [70.1] during the spring, 1983 term.)~~

~~Prerequisite: Geology or Earth and Environmental Sciences 1100 [1]; or permission of the chairperson.~~

**Rationale:** Student interest or faculty expertise no longer exists in the department to offer this course, and so it will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~3500 Geological Aspects of Conservation~~**

~~3 hours; 3 credits~~

~~Methods of control and conservation of renewable resources: soils, groundwaters, and surface waters; and nonrenewable resources; ore deposits, petroleum, coal, and related natural resources. Natural resource planning and management: policy, inventory and development, environmental impact statements. Land-use planning: purpose, carrying capacity, and methodology.~~

~~Prerequisite: Geology or Earth and Environmental Sciences 1100 [1] or 4 or 5.1.~~

**Rationale:** Student interest or faculty expertise no longer exists in the department to offer this course, and so it will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~3525 Solid and Hazardous Waste Management~~**

~~2 hours lecture, 2 hours laboratory; 3 credits~~

~~Brief history of waste disposal, ecological aspects of waste disposal, hydraulics and groundwater regimes, biogeochemical cycles, regulatory background to waste management (NEPA, RCRA, CERCLA, CAA, CWA), solid and municipal wastes, landfill technologies, management of leachate and gases, chemical and hazardous waste management, radioactive waste management, geological criteria for waste disposal site selection, sampling and evaluation of geological data, case history studies, remediation of contaminated sites.~~

~~Prerequisites: Chemistry 1100 [1] and any course in Geology or Earth and Environmental Sciences or permission of the chairperson.~~

**Rationale:** Student interest or faculty expertise no longer exists in the department to offer this course, and so it will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012



## SECTION A-VI: OTHER CHANGES

### Department of Earth and Environmental Sciences

Reinstatement of inactive course and change in course title, description and prerequisite

#### FROM:

#### **3650 Environmental Aspects of Soils ~~Geology~~**

2 hours lecture, 2 hours laboratory; 3 credits

Definition, mineralogical and organic content, varieties, classification, and environmental aspects of soils. Factors affecting soil formation; soil erosion; soil ecology; soil genesis. Influence on ground water. Soil geography, surveys, and land use. Environmental impacts of soils. ~~Field trips to soil laboratories~~ in the New York metropolitan area.

*Prerequisite:* ~~Geology 2.2.~~ or permission of the chairperson

#### TO:

#### **3650 Environmental Aspects of Urban Soils**

2 hours lecture, 2 hours laboratory; 3 credits

Definition, mineralogical and organic content, varieties, classification, and environmental aspects of soils. Factors affecting soil formation; soil erosion; soil ecology; soil genesis. Influence on ground water. Soil geography, surveys, and land use. Environmental impacts of soils. Field study of urban soils in the New York metropolitan area.

*Prerequisite:* Earth and environmental sciences 2200 and 3100 or permission of the chairperson

**Rationale:** The expansion of the department's mission to include a broader range of environment-related courses, and expansion of expertise in this area requires the reinstatement this course that is fundamental to environmental geoscience.

Prerequisites needed to be updated.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## SECTION A-VI: OTHER CHANGES

### Department of Earth and Environmental Sciences

Reinstatement of inactive course and change in prerequisite

#### FROM:

##### **3675 Environmental Geochemistry**

2 hours lecture, 2 hours laboratory; 3 credits

Low-temperature geochemistry and applications to environmental problems; biogeochemical cycling; evaluation of geochemical reservoirs and trace element movement in natural systems. Laboratory exercises in geochemical sample collection of waters, soils, sediments, and related media; field measurements; maintenance of sample integrity; sample preparation and instrumental analysis; map preparation; environmental impact statements and reports.

*Prerequisite:* ~~Geology 1.~~

*Prerequisite or corequisite:* ~~Chemistry 1 or 1.2.~~

#### TO:

##### **3675 Environmental Geochemistry**

2 hours lecture, 2 hours laboratory; 3 credits

Low-temperature geochemistry and applications to environmental problems; biogeochemical cycling; evaluation of geochemical reservoirs and trace element movement in natural systems. Laboratory exercises in geochemical sample collection of waters, soils, sediments, and related media; field measurements; maintenance of sample integrity; sample preparation and instrumental analysis; map preparation; environmental impact statements and reports.

*Prerequisite:* Earth and environmental sciences 1101 or 1201

*Prerequisite or corequisite:* Chemistry 1040 or 1100

**Rationale:** The expansion of the department's mission to include a broader range of environment-related courses, and expansion of expertise in this area requires the reinstatement this course that is fundamental to environmental geoscience.

Prerequisites needed to be updated.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

Material located with ~~strike-through~~ is to be deleted and material underlined is to be added

**SECTION A-VI: OTHER CHANGES**

**Department of Earth and Environmental Sciences**

Withdrawal of course

**~~3700 Geomorphology~~**

~~2 hours lecture, 2 hours laboratory; 3 credits~~

~~Descriptive and analytical study of landforms and landscape evolution. Use of topographic maps and stereo aerial photographs. (Not open to students who have completed Geology 25.)~~

~~Prerequisite: Geology or Earth and Environmental Sciences 1100 [1] or permission of the instructor.~~

**Rationale:** Student interest or faculty expertise no longer exists in the department to offer this course, and so it will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Earth and Environmental Sciences**

Withdrawal of course

#### **~~3950 History of Geology~~**

~~3 hours; 3 credits~~

~~Study of changing ideas about the earth; emphasis on religious and sociological influences. Problems considered include: how earth study became scientific; the role of "fantastic" theories of the earth; the discovery of time; the nature of change; the meaning of fossils; the construction of modern geologic beliefs. Evaluation of different histories of geology.~~

~~Prerequisite: Geology or Earth and Environmental Sciences 1200 [2.2] or permission of the chairperson~~

**Rationale:** Student interest or faculty expertise no longer exists in the department to offer this course, and so it will not be offered in the foreseeable future.

**Date of departmental approval:** February 14, 2012

**Effective date:** Fall 2012

## **SECTION A-VI: OTHER CHANGES**

### **Department of Physics**

Re-activation of a course

### **3650 Issues in Physics and Society**

2 hours; 2 credits

A technical and quantitative study of one of these issues: 1) nuclear weapons, effects, proliferation, arms control; 2) nuclear energy, prospects in fission and fusion, environmental problems; 3) renewable energy sources, such as solar and wind power, energy storage; 4) the global environment, sources of pollution, greenhouse gases, climatic effects.

*Prerequisite:* Physics 3100 and 4900W.

**Rationale:** We now have many B.A. physics majors in our pipeline. Physics 3650 fulfills one of their requirements and covers areas of current significance.

**Date of approval by Department:** February 14, 2012

**Effective Date:** Fall 2012