General Education Review Committee
Agenda

February 15, 2008
ADM 201
12:30 p.m. – 1:30 p.m.

I. Call to Order
Roll

( ) Erik Hirschman Mat-Su/UAB Humanities/ Social Sciences
( ) Caedmon Liburd UAB
( ) Patricia Fagan CAS Humanities
( ) Bob Capuozzo COE
( ) Fred Barbee CBPP/UAB
( ) Jeane Breinig CAS Written Communication
( ) Len Smiley CAS/UAB Quantitative Skills
( ) Suzanne Forster CAS/UAB
( ) Robin Wahto CTC/UAB
( ) Walter Olivares CAS Fine Arts
( ) Tom Miller OAA Guest
( ) Gail Holtzman CHSW/UAB Social Sciences
( ) Grant Baker SOENGR/UAB
( ) Barbara Harville CAS Oral Communication
( ) vacant Natural Science
( ) Karl Wing USUAA

II. Approval of Agenda (pg. 1)

III. Approval of Summary (pg. 2-3)

IV. Chair’s Report

V. Course Action Requests

<table>
<thead>
<tr>
<th>Chg</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Modifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chg</td>
<td>LING A101</td>
<td>The Nature of Language (3 cr) (3+0)</td>
<td>No revisions</td>
<td></td>
</tr>
<tr>
<td>Chg</td>
<td>BIOL A115</td>
<td>Fundamentals of Biology I (4 cr) (3+3) (pg. 4-10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chg</td>
<td>BIOL A116</td>
<td>Fundamentals of Biology II (4 cr) (3+3) (pg. 11-15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chg</td>
<td>BIOL A178</td>
<td>Fundamentals of Oceanography (3 cr) (3+0) (cross listed w/ GEOL A178) (pg. 16-19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chg</td>
<td>GEOL A178</td>
<td>Fundamentals of Oceanography (3 cr) (3+0) (cross listed w/ BIOL A178) (pg. 20-23)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chg</td>
<td>BIOL A179</td>
<td>Fundamentals of Oceanography Laboratory (1 cr) (0+3) (cross listed w/ GEOL A179) (pg. 24-27)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chg</td>
<td>GEOL A179</td>
<td>Fundamentals of Oceanography Laboratory (1 cr) (0+3) (cross listed w/ BIOL A179) (pg. 28-31)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VI. Old Business

VII. New Business

VIII. Informational Items and Adjournment
I. Call to Order

Roll
(x) Erik Hirschman Mat-Su/UAB Humanities/ Social Sciences
(e) Caedmon Liburd UAB
(x) Patricia Fagan CAS Humanities
(x) Bob Capuozzo COE
() vacant CBPP/UAB
(x) Jeane Breinig CAS Written Communication
(x) Len Smiley CAS/UAB Quantitative Skills
(x) Suzanne Forster CAS/UAB
(e) Robin Wahto CTC/UAB
() Walter Olivares CAS Fine Arts
(e) Tom Miller OAA Guest
() Grant Baker CHSW/UAB Social Sciences
() Karl Wing USUAA

II. Approval of Agenda (pg. 1)
Approved

III. Approval of Summary (pg. 2-3)
Approved

IV. Chair’s Report

V. Course Action Requests
Chg LING A101 The Nature of Language (3 cr) (3+0)
Tabled- No revisions received

Add THR A492 Senior Seminar (3 cr) (3+0) (pg. 4-8)
Approved

Chg PHIL A101 Introduction to Logic (3 cr) (3+0) (pg. 9-12)
Approved

Chg PHIL A201 Introduction to Philosophy (3 cr) (3+0) (pg. 13-16)
Approved

Chg PHIL A211 History of Philosophy I (3 cr) (3+0) (pg. 17-21)
Approved

Chg PHIL A212 History of Philosophy II (3 cr) (3+0) (pg. 22-27)
Approved

Chg PHIL A301 Ethics (3 cr) (3+0) (pg. 28-33)
Approved

Chg PHIL A313 Eastern Philosophy & Religion (3 cr) (3+0) (pg. 34-39)
Approved
Chg  PHIL A314  Western Religions (3 cr) (3+0) (pg. 40-46)
Approved

VI.  Old Business

VII. New Business

VIII. Informational Items and Adjournment

Meeting adjourned @ 1:58 p.m.
### Curriculum Action Request

**University of Alaska Anchorage**

**Proposal to Initiate, Add, Change, or Delete a Course or Program of Study**

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Biological Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEU</th>
<th>5b. Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>A115</td>
<td></td>
<td>4</td>
<td>(Lecture + Lab) (3+3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Complete Course/Program Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Biology I</td>
</tr>
</tbody>
</table>

**Abbreviated Title for Transcript (30 character)**

<table>
<thead>
<tr>
<th>7. Type of Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Type of Action</th>
<th>9. Repeat Status No</th>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delete</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Grading Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. Implementation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>From: Fall/2008</td>
</tr>
<tr>
<td>To: 9/9999</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. Cross Listed with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stacked</td>
</tr>
<tr>
<td>with</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13. List any programs or college requirements that require this course</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA Biology; BS Biology; BS Natural Science, minor Biology; and BEd Education (Secondary).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14. Coordinate with Affected Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS, CBPP, C-Ed, CH&amp;SW, CTC, Engineering, U Honors Coll, all extended sites. E-mail to all UAA faculty. See attached Coordination Form.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15. General Education Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Communication</td>
</tr>
<tr>
<td>Written Communication</td>
</tr>
<tr>
<td>Quantitative Skills</td>
</tr>
<tr>
<td>Humanities</td>
</tr>
<tr>
<td>Fine Arts</td>
</tr>
<tr>
<td>Social Sciences</td>
</tr>
<tr>
<td>Natural Sciences</td>
</tr>
<tr>
<td>Integrative Capstone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16. Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A survey of molecular biology, genetics, and homeostasis in the context of evolution. Special Note: One 3-hour lab per week. BIOL A115 and A116 are core courses in biology and are prerequisites to further courses in biological sciences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17a. Course Prerequisite(s) (list prefix and number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM A105 or concurrent enrollment</td>
</tr>
<tr>
<td>and (CHEM A105L or concurrent enrollment)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17b. Test Score(s)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>17c. Co-requisite(s) (concurrent enrollment required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL A115L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17d. Other Restriction(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College</td>
</tr>
<tr>
<td>Major</td>
</tr>
<tr>
<td>Class</td>
</tr>
<tr>
<td>Level</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17e. Registration Restriction(s) (non-codable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One year of high school biology, one year of high school chemistry, and working knowledge of the metric system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. Mark if course has fees</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
</tr>
</thead>
</table>

**Updating student outcomes to meet current GER descriptors.**

---

**Initiator (faculty only) Date**

---

**Approved**

**Disapproved**

---

**Initiator (PRINT NAME) Date**

---

**Approved**

**Disapproved**

---

**Dean/Director of School/College Date**

---

**Approved**

**Disapproved**

---

**Department Chairperson Date**

---

**Approved**

**Disapproved**

---

**Undergraduate or Graduate Academic Board Chairperson Date**

---

**Approved**

**Disapproved**

---

**Provost or Designee Date**
UNIVERSITY OF ALASKA ANCHORAGE
COURSE CONTENT GUIDE

I. Implementation Date:
Fall 2008

II. Course Information
A. College: College of Arts and Sciences
B. Course Subject/Number: BIOL A115
C. Course Title: Fundamentals of Biology I
D. Course Description: A survey of molecular biology, genetics, and homeostasis in the context of evolution. Special Note: One 3-hour lab per week. BIOL A115 and A116 are core courses in biology and are prerequisites to further courses in biological sciences.
E. Credit Hours: 4
F. Contact Hours: 3 + 3
G. Grading Basis: A-F
H. Status of Course Relative to Degree Program: This course satisfies Natural Science category of the General Education Requirements and is a core course for B.A. and B.S. degree programs in Biology; B.S. in Natural Science; minor in Biology; and B.Ed. (Secondary Education-Biology) in Education
I. Course Fees (Yes/No): Yes
J. Lab Fees (Yes/No): Yes
K. Coordination: CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. Email to all UAA faculty. See attached Coordination Form.
L. Prerequisites/Corequisite: Prerequisites: (CHEM A105 or concurrent enrollment) and (CHEM A105L or concurrent enrollment); Corequisite: BIOL A115L
M. Registration Restrictions: One year of high school biology, one year of high school chemistry, and working knowledge of the metric system.

III. Course Activities:
Course conducted both as a lecture with classroom discussions and laboratory activities that reinforce lectures.

IV. Evaluation:
Course is graded A-F. Comprehensive tests will be used with a mixture of essay, multiple choice, and diagram interpretation to evaluate the ability of the student to understand the concepts presented in the course. The grade will be based on how well the student masters the subject matter.

V. Course Level Justification:
The exercises and content of this first semester core-course are designed for lower-division BA and BS students majoring in biology and BS students in natural sciences. This course has a 100-level CHEM prerequisite/corequisite which enhances student comprehension and understanding of molecular, genetic and homeostatic principles in the context of evolution.
VI. Course Outline
1.0 How Populations Evolve
   1.1 Genetics of Populations
   1.2 Causes of Microevolution
   1.3 Genetic Basis of Evolution
   1.4 Seedless vascular plants
   1.5 Nature and Extent of Variation
2.0 The Origin of Species
   2.1 The Species Question
   2.2 Reproductive Isolating Mechanisms
   2.3 Mechanisms of Speciation
      a. Allopatric Speciation
      b. Sympatric Speciation
      c. Parapatric Speciation
   2.4 Genetic Mechanisms of Speciation
   2.5 Punctuated Equilibrium
3.0 Macroevolution
   3.1 The Fossil Record
   3.2 Tracing Phylogeny: Systematics
   3.3 Macroevolution Defined
   3.4 Mechanisms of Macroevolution
   3.5 Extinction
4.0 A Tour of the Cell
   4.1 How Cells are Studied
   4.2 Geography of the Cell: An Overview
   4.3 The Nucleus
   4.4 Ribosomes
   4.5 Endoplasmic System
   4.6 Mitochondria and Chloroplasts
   4.7 Cytoskeleton
   4.8 Cell Surface
5.0 Structure and Function of Macromolecules
   5.1 Polymers
   5.2 Carbohydrates
   5.3 Lipids
   5.4 Proteins
   5.5 Nucleic acids
6.0 Review of Cell Structure
   6.1 Nutritional requirement of plants
   6.2 Soil
   6.3 Nitrogen assimilation by plants
   6.4 Some nutritional adaptations of plants
7.0 Introduction to Metabolism
   7.1 Metabolic map
   7.2 Energy and basic principles
   7.3 Chemical Energy and Life
   7.4 ATP and cellular work
   7.5 Enzymes
   7.6 Control of Metabolism
8.0 Cell Homeostasis: Membrane Structure and Function
8.1 Models of membrane structure
8.2 Transport of small molecules
8.3 Transport of large molecules
9.0 Cell Homeostasis: Cellular Respiration
  9.1 ATP and cellular work
  9.2 Respiration as an oxidation-reduction process
  9.3 Cellular respiration
  9.4 Glycolysis
  9.5 Krebs cycle
  9.6 Electron transport chain and oxidative phosphorylation
  9.7 Cellular respiration: An overview
  9.8 Fermentation
10.0 Cell Homeostasis: Photosynthesis
  10.1 Chloroplasts
  10.2 How plants make food
  10.3 Light reactions of photosynthesis
  10.4 Calvin cycle
  10.5 Photorespiration
  10.6 C4 plants
  10.7 CAM plants
11.0 Cell Homeostasis: Reproduction of Cells
  11.1 Introduction to eukaryotic chromosomes
  11.2 Cell cycle
  11.3 Cell division: mitosis
  11.4 Cell division: control
12.0 Cell Homeostasis: Meiosis and Sexual Life Cycles
  12.1 Genes. DNA and chromosomes
  12.2 Sexual and asexual reproduction
  12.3 Sexual life cycles: Humans
  12.4 Variation in sexual life cycles
  12.5 Meiosis
  12.6 Comparison of mitosis and meiosis
  12.7 Sexual sources of genetic variation
  12.8 Genetic variation and evolution
13.0 Cell Homeostasis: Mendel and the Gene Idea
  13.1 Mendel's model
  13.2 Extending Mendelian genetics
  13.3 Mendelian inheritance in human populations
14.0 Cell Homeostasis: Chromosomal basis for inheritance
  14.1 Linked genes
  14.2 Recombination of unlinked genes: independent assortment
  14.3 Recombination of linked genes: crossing-over
  14.4 Genetic maps based on crossover data
  14.5 Sex chromosomes and sex-linked inheritance
  14.6 Chromosomal mutations
  14.7 Extranuclear inheritance
15.0 Cell Homeostasis: Molecular Basis of Inheritance
  15.1 Search for genetic material
  15.2 Discovery of DNA double helix
  15.3 DNA replication: basic concepts
II. DNA replication: a closer view
15.5 DNA repair
16.0 From Gene to Protein
16.1 Overview of protein synthesis
16.2 Genetic Code
16.3 Transcription
16.4 Translation
16.5 Protein synthesis in eukaryotes versus prokaryotes
16.6 RNA processing in eukaryotes
16.7 Effect of mutations on proteins
16.8 What is a gene?

VII. Instructional Goals and Student Outcomes:
A. The instructor will:
Present the concepts fundamental to the study of molecular biology, genetics and homeostasis in the context of evolution.
B. Student Outcomes:

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply the scientific method through the formulation of hypotheses, proposing of testable predictions, and then testing to reach supportable conclusions about biological processes and systems</td>
<td>Written exams, homework</td>
</tr>
<tr>
<td>Confirm an understanding of the fundamentals of molecular biology, genetics and homeostasis in the context of evolution</td>
<td>Written exams, homework</td>
</tr>
<tr>
<td>Provide an overview of the major discoveries and advances in biology that have impacted thought and technology throughout history.</td>
<td>Written exams, homework</td>
</tr>
<tr>
<td>Identify ways in which biology has advanced the understanding of important evolutionary processes</td>
<td>Written exams, homework</td>
</tr>
<tr>
<td>Work with the tools and in the settings used in molecular biology, genetics and homeostasis in the context of evolution Use instrumentation employed by biologists in a lab research setting; make critical observations on the diversity of molecular structures, metabolic pathways and genetic structures in biological systems; and accurately record and analyze their data/observations.</td>
<td>Laboratory practical exams, Lab books Laboratory assignments, practical exams</td>
</tr>
</tbody>
</table>

VIII. Suggested Text(s):
IX. Bibliography:
Notification Date: 16 January 2008

Initiating unit: Biological Sciences

Affected unit(s): CAS, CBPP, COE, CHSW, CTC, SOE, HC and Deans/Directors of Anchorage and extended sites: MatSu, KPC, KOC, PWSCC

Course Prefix and Number: BIOL Previous Prefix and Number: A115, A116, A178, A179


Previous Course/Program Title: No Change

Description of Action: Updating student outcomes to meet current GER descriptors; fine tuning course description for BIOL A116.

Supporting documentation of the proposal is attached.

Initiating faculty are also REQUIRED to send an email to uaa-faculty@uaa.alaska.edu describing the proposal, including the proposed action and the course prefix, number, course description, prerequisite, and any other relevant information.

Any questions concerning the proposed changes may be addressed to the appropriate department chair, or the chair of the appropriate curriculum committee. Written comments may also be sent to the UAB or GAB, in care of the Governance Office, at the following address:

University of Alaska Anchorage
Governance Office, ADM 213
3211 Providence Drive
Anchorage, AK 99508
Curriculum Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course or Program of Study

1a. School or College | 1b. Division | 1c. Department
---|---|---
AS CAS | AMSC Division of Math Science | Biological Sciences

2. Course Prefix  | 3. Course Number | 4. Previous Course Prefix & Number | 5a. Credits/CEU | 5b. Contact Hours (Lecture + Lab)
BIOL | A116 | | 4 | (3+3)

6. Complete Course/Program Title
Fundamentals of Biology II
Abbreviated Title for Transcript (30 character)

7. Type of Course
- Academic
- Non-credit
- CEU
- Professional Development

8. Type of Action
- Course
- Program

- Add
- Change
- Delete

9. Repeat Status No | # of Repeats | Max Credits

10. Grading Basis
- A-F
- P/NP
- NG

11. Implementation Date
- Semester/year
- From: Fall/2008
- To: /99999

12. Cross Listed with
- Stacked with
- Cross-Listed Coordination Signature

13. List any programs or college requirements that require this course
- BA Biology; BS Biology; BS Natural Science, minor Biology; and BEd Education (Secondary).

14. Coordinate with Affected Units:
- CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. E-mail to all UAA faculty. See attached Coordination Form.

15. General Education Requirement
- Oral Communication
- Written Communication
- Quantitative Skills
- Humanities
- Fine Arts
- Social Sciences
- Natural Sciences
- Integrative Capstone

16. Course Description
Continuation of topics addressed in BIOL A115, with emphasis on biodiversity, ecology, and survey of life, relating structure to function in the context of evolution. Special Note: One 3-hour lab per week. BIOL A115 and A116 are core courses in biology and are prerequisites to further courses in biological sciences.

17a. Course Prerequisite(s) (list prefix and number)
- BIOL A115 and [CHEM A105 and CHEM A105L] and [(Chem A106 or concurrent enrollment) and (CHEM A106L or concurrent enrollment)].

17b. Test Score(s)

17c. Co-requisite(s) (concurrent enrollment required)
- BIOL A116L

17d. Other Restriction(s)

17e. Registration Restriction(s) (non-codable)

18. Mark if course has fees

19. Justification for Action
Fine tuning course description. Updating student outcomes to meet current GER descriptors.

Initiator (faculty only) Date

Initiator (PRINT NAME)

Approved Disapproved

Dean/Director of School/College Date

Approved Disapproved

Department Chairperson Date

Approved Disapproved

Undergraduate or Graduate Date

Approved Disapproved

Academic Board Chairperson

Approved Disapproved

Provost or Designee

Date
I. Implementation Date:
Fall 2008

II. Course Information
A. College: College of Arts and Sciences
B. Course Subject/Number: BIOL A116
C. Course Title: Fundamentals of Biology II
D. Course Description: Continuation of topics addressed in BIOL A115, with emphasis on biodiversity, ecology, and survey of life, relating structure to function in the context of evolution. Special Note: One 3-hour lab per week. BIOL A115 and A116 are core courses in biology and are prerequisites to further courses in biological sciences.
E. Credit Hours: 4
F. Contact Hours: 3 + 3
G. Grading Basis: A-F
H. Status of Course Relative to Degree Program: This course satisfies Natural Science category of the General Education Requirements, and is a core course for B.A. and B.S. degree programs in Biology; B.S. in Natural Science; minor in Biology; and B.Ed. (Secondary Education-Biology) in Education
I. Course Fees (Yes/No): No
J. Lab Fees (Yes/No): Yes
K. Coordination: CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. Email to all UAA faculty. See attached Coordination Form.
L. Prerequisites/Corequisite: Prerequisites: BIOL A115 and [CHEM A105 and CHEM A105L] and [(CHEM A106 or concurrent enrollment) and (CHEM A106L or concurrent enrollment)]. Co-requisite: BIOL A116L.

M. Registration Restrictions:

III. Course Activities:
Course conducted both as a lecture with classroom discussions and laboratory activities that reinforce lectures.

IV. Evaluation:
Course is graded A-F. Comprehensive tests will be used with a mixture of essay, multiple choice, and diagram interpretation to evaluate the ability of the student to understand the concepts presented in the course. The grade will be based on how well the student masters the scientific papers and subject matter.

V. Course Level Justification:
The exercises and content of this second semester core-course are designed for lower-division BA and BS students majoring in biology and BS students in natural sciences. This course has BIOL A115, CHEM A105 and CHEM 105L as prerequisites plus CHEM 106 and CHEM 106L as an additional prerequisite/corequisite, all of which promote student comprehension and understanding of biodiversity, ecology and survey of life relating...
structure to function in the context of evolution, which reinforces their prior knowledge of molecular-cellular biology and genetics.

VI. Course Outline
1.0 Biodiversity and Planet Earth
   1.1 What is Biodiversity?
   1.2 Importance of Biodiversity
   1.3 Measures of Biodiversity
   1.4 Ecogeographic Trends in Biodiversity
   1.5 Climate and Oceanic Circulation
2.0 Diverse Environments of the Biosphere
   2.1 Terrestrial Biomes
      a. Tropical Forests
      b. Savanna
      c. Desert
      d. Chaparral
      e. Temperate Grasslands
      f. Temperate Forests
      g. Tiaga
      h. Tundra
   2.2 Aquatic Biomes
      a. Freshwater Communities
      b. Marine Communities
3.0 Early Earth and the Origin of Life
   3.1 Formation of Earth
   3.2 Antiquity of Life
   3.3 Origin of Life
   3.4 Kingdoms of Life
4.0 Prokaryotes and the Origins of Metabolic Diversity
   4.1 Prokaryotic Form and Function
   4.2 The Diversity of Prokaryotes
   4.3 Importance of Prokaryotes
   4.4 The Origins of Metabolic Diversity
5.0 Protists and the Origin of Eukaryotes
   5.1 Characteristics of Protists
   5.2 Boundaries of Kingdom Protista
   5.3 Protozoa
   5.4 Algal Protists
   5.5 Protists Resembling Fungi
   5.6 Origin of Eukaryotes
   5.7 Origins of Multicellularity
6.0 Plants and the Colonization of Land
   6.1 Introduction to the Plant Kingdom
   6.2 The Move onto Land
   6.3 Seedless Vascular plants
   6.4 Terrestrial Adaptations of Seed Plants
   6.5 Gymnosperms
   6.6 Angiosperms
7.0 Fungi
   7.1 Characteristics of Fungi
7.2 Diversity of Fungi
7.3 Ecology of Fungi
7.4 Evolution of Fungi

8.0 Invertebrates and the Origin of Animal Diversity
  8.1 Characteristics of Metazoa
  8.2 Animal Phylogeny
  8.3 Parazoa
  8.4 Radiata
  8.5 Acoelomata
  8.6 Pseudocoelomata
  8.7 Prostostomata
  8.8 Lophophorata
  8.9 Deuterostomata
  8.10 Origins of Animal Diversity

9.0 The Vertebrate Geneology
  9.1 Phylum Chordata
  9.2 Origin of Vertebrates
  9.3 Vertebrate Characteristics
  9.4 Class Agnatha
  9.5 Class Placodermi
  9.6 Class Chondrichthyes
  9.7 Class Osteichthyes
  9.8 Class Amphibia
  9.9 Class Reptilia
  9.10 Class Aves
  9.11 Class Mammalia

10.0 Population Ecology
  10.1 Demography
  10.2 Logistic Model of Growth
  10.3 Regulation of Populations
  10.4 Evolution of Life Histories

11.0 Community Ecology
  11.1 Communities
  11.2 Population interaction
  11.3 Community structure
  11.4 Succession
  11.5 Biogeography and Diversity I

12.0 Ecosystems
  12.1 Trophic levels and food webs
  12.2 Energy flow
  12.3 Chemical cycling
  12.4 Human influences on ecosystems

13.0 Descent with Modification
  13.1 Concepts of Darwinism
  13.2 The Modern Synthesis
  13.3 Evidence for Evolution

VII. Instructional Goals and Student Outcomes:
A. **The instructor will:**
Present the concepts fundamental to the study of biodiversity, ecology, and survey of life, relating structure to function in the context of evolution.

B. **Student Outcomes:**

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply the scientific method through the formulation of hypotheses, proposing of testable predictions, and then testing to reach supportable conclusions about <strong>biological processes and systems</strong></td>
<td>Written exams, homework Write scientific papers</td>
</tr>
<tr>
<td>Confirm an understanding of the fundamentals of <strong>biodiversity, ecology, survey of life, relating structure to function in the context of evolution</strong></td>
<td>Written exams, homework Lab book</td>
</tr>
<tr>
<td>Provide an understanding of the major discoveries and advances in <strong>biology</strong> that have impacted thought and technology throughout history</td>
<td>Written exams, homework</td>
</tr>
<tr>
<td>Identify ways in which biology has advanced the understanding of important <strong>evolutionary processes</strong></td>
<td>Written exams, homework</td>
</tr>
<tr>
<td>Work with the tools and in the settings used to understand <strong>biodiversity, ecology, survey of life, relating structure to function in the context of evolution</strong></td>
<td>Laboratory practical exams, Lab book</td>
</tr>
<tr>
<td>Use instrumentation employed by biologists in a lab research setting; make critical observations on the <strong>biodiversity, ecology, survey of life, relating structure to their functions in biological systems</strong> and accurately record and analyze their data/observations.</td>
<td>Laboratory assignments, presentations, practical exams, poster</td>
</tr>
</tbody>
</table>

VIII. **Suggested Text(s):**

IX. **Bibliography:**
**Curriculum Action Request**  
**University of Alaska Anchorage**  
Proposal to Initiate, Add, Change, or Delete a Course or Program of Study

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Biological Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>A178</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Credits/CEU</th>
<th>5b. Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>(Lecture + Lab)</td>
</tr>
<tr>
<td>(3+0)</td>
<td></td>
</tr>
</tbody>
</table>

**Complete Course/Program Title**  
Fundamentals of Oceanography

**Abbreviated Title for Transcript (30 character)**

<table>
<thead>
<tr>
<th>6. Type of Course</th>
<th>7. Type of Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Course</td>
</tr>
<tr>
<td>Non-credit</td>
<td>Program</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Type of Action</th>
<th>9. Repeat Status No</th>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delete</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Course Prefix**

<table>
<thead>
<tr>
<th>10. Grading Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-F</td>
</tr>
<tr>
<td>P/NP</td>
</tr>
<tr>
<td>NG</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. Implementation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>From: Fall/2008</td>
</tr>
<tr>
<td>To: /9999</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. Cross Listed with</th>
<th>GEOL A178</th>
</tr>
</thead>
</table>

**List any programs or college requirements that require this course**

**Coordinate with Affected Units:**
CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. E-mail to all UAA faculty. See attached Coordination Form.

**Department, School, or College**

**General Education Requirement**

<table>
<thead>
<tr>
<th>Oral Communication</th>
<th>Written Communication</th>
<th>Quantitative Skills</th>
<th>Humanities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fine Arts</th>
<th>Social Sciences</th>
<th>Natural Sciences</th>
<th>Integrative Capstone</th>
</tr>
</thead>
</table>

**Course Description**

Principles of oceanography, with emphasis on the ocean's biological, physical, chemical and geological processes, and how ocean processes affect the atmosphere.

**Course Prerequisite(s) (list prefix and number)**

**Test Score(s)**

**Co-requisite(s) (concurrent enrollment required)**

**Other Restriction(s)**

**Registration Restriction(s) (non-codable)**

**Placement into MATH A105 or higher.**

**Mark if course has fees**

**Justification for Action**

Updating student outcomes to meet current GER descriptors.

---

**Initiator (faculty only)**

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
</table>

**Initiator (PRINT NAME)**

<table>
<thead>
<tr>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disapproved</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
</table>

**Dean/Director of School/College**

<table>
<thead>
<tr>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disapproved</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
</table>

**Department Chairperson**

<table>
<thead>
<tr>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disapproved</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
</table>

**Undergraduate or Graduate Academic Board Chairperson**

<table>
<thead>
<tr>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disapproved</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
</table>

**Provost or Designee**

<table>
<thead>
<tr>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disapproved</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
</table>
I. Implementation Date:
Fall 2008

II. Course Information
A. College: College of Arts and Sciences
B. Course Subject/Number: BIOL A178/GEOL A178
C. Course Title: Fundamentals of Oceanography
D. Course Description: Principles of oceanography, with emphasis on the ocean's biological, physical, chemical and geological processes, and how ocean processes affect the atmosphere.
E. Credit Hours: 3.0
F. Contact Hours: 3 + 0
G. Grading Basis: A-F
H. Status of Course Relative to Degree Program:
I. Course Fees (Yes/No): No
J. Lab Fees (Yes/No):
K. Coordination: CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. Email to all UAA faculty. See attached Coordination Form.
L. Prerequisites:
M. Corequisite: Placement into MATH A105 or higher.
N. Registration Restrictions:

III. Course Activities:
This is a lecture course.

IV. Evaluation:
Course will be graded A-F. Evaluation normally includes written and practical exams, quizzes, written exercises and problems, class discussion and special projects. Evaluation procedures are explained at the first class meeting.

V. Course Level Justification:
This course provides students with an introduction to oceanographic concepts and problem solving skills.

VI. Course Outline
1. History of oceanography
2. Marine Geology
   a. Plate tectonics
   b. Sediments
   c. Bathymetry
   d. Continental margins
   e. Ocean regions
3. Chemistry
   a. Marine chemistry
b. Hydrothermal vents and methane seeps  
c. Nutrients  
d. Coastal vs. open ocean  
e. Benthic-pelagic coupling  

4. Physics  
a. Physical properties of water  
b. Atmosphere-surface interactions  
c. Salinity  
d. Temperature  
e. Density  

5. Ocean circulation  
a. Surface circulation  
b. Deep circulation  
c. Waves  
d. Tides  

6. Biology  
a. Intertidal organisms  
b. Pelagic organisms  
c. Benthic organisms  
d. Biological Production  
e. Fisheries  

7. Pollution  
8. Biogeography  
9. Human Interactions  

VII. Instructional Goals and Student Outcomes:  
A. The instructor will:  
Present the concepts important in the study of oceanography and guide students to an understanding of the principles and applications of oceanography.  

B. Student Outcomes:  

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply the scientific method through the formulation of hypotheses, proposing of testable predictions, and then testing to reach supportable conclusions about oceanographic processes and systems.</td>
<td>Written exam</td>
</tr>
<tr>
<td>Confirm an understanding of the fundamentals of plate tectonic theory, origin and evolution of ocean basins, oceanic circulation and its influence on major marine ecosystems.</td>
<td>Written exam</td>
</tr>
<tr>
<td>Provide an overview of the major discoveries and advances in oceanographic processes that have impacted the atmosphere and human societies.</td>
<td>Written exam</td>
</tr>
</tbody>
</table>
VIII. **Suggested Text(s):**

IX. **Bibliography:**
### Curriculum Action Request

**University of Alaska Anchorage**

Proposal to Initiate, Add, Change, or Delete a Course or Program of Study

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Geological Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
<th>5a. Credits/CEU</th>
<th>5b. Contact Hours (Lecture + Lab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL</td>
<td>A178</td>
<td></td>
<td>3.0</td>
<td>(3+0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Complete Course/Program Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Oceanography</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. Type of Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Academic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Type of Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Course</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Repeat Status No</th>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>10. Grading Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ A-F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. Implementation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>From: Fall/2008</td>
</tr>
<tr>
<td>To: /99999</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. Cross Listed with</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL A178</td>
</tr>
</tbody>
</table>

| 13. List any programs or college requirements that require this course |

| 14. Coordinate with Affected Units: |
| CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. E-mail to all UAA faculty. See attached Coordination Form. |

<table>
<thead>
<tr>
<th>Department, School, or College</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>15. General Education Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Oral Communication</td>
</tr>
<tr>
<td>☑ Written Communication</td>
</tr>
<tr>
<td>☑ Quantitative Skills</td>
</tr>
<tr>
<td>☑ Humanities</td>
</tr>
<tr>
<td>☑ Fine Arts</td>
</tr>
<tr>
<td>☑ Social Sciences</td>
</tr>
<tr>
<td>☑ Natural Sciences</td>
</tr>
<tr>
<td>☑ Integrative Capstone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16. Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of oceanography, with emphasis on the ocean's biological, physical, chemical and geological processes, and how ocean processes affect the atmosphere.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17a. Course Prerequisite(s) (list prefix and number)</th>
<th>17b. Test Score(s)</th>
<th>17c. Co-requisite(s) (concurrent enrollment required)</th>
<th>17d. Other Restriction(s)</th>
<th>17e. Registration Restriction(s) (non-codable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>College</td>
<td>Major</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. Mark if course has fees</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Updating student outcomes to meet current GER descriptors.</td>
</tr>
</tbody>
</table>

### Approval Levels

<table>
<thead>
<tr>
<th>Approver</th>
<th>Approved</th>
<th>Disapproved</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiator (faculty only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiator (PRINT NAME)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dean/Director of School/College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department Chairperson</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Board Chairperson</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provost or Designee</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I. Implementation Date:
Fall 2008

II. Course Information
A. College: College of Arts and Sciences
B. Course Subject/Number: BIOL A178/GEOL A178
C. Course Title: Fundamentals of Oceanography
D. Course Description: Principles of oceanography, with emphasis on the ocean's biological, physical, chemical and geological processes, and how ocean processes affect the atmosphere.
E. Credit Hours: 3.0
F. Contact Hours: 3 + 0
G. Grading Basis: A-F
H. Status of Course Relative to Degree Program:
I. Course Fees (Yes/No): No
J. Lab Fees (Yes/No):
K. Coordination: CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. Email to all UAA faculty. See attached Coordination Form.

L. Prerequisites: Placement into MATH A105 or higher.
M. Corequisite:
N. Registration Restrictions:

III. Course Activities:
This is a lecture course.

IV. Evaluation:
Course will be graded A-F. Evaluation normally includes written and practical exams, quizzes, written exercises and problems, class discussion and special projects. Evaluation procedures are explained at the first class meeting.

V. Course Level Justification:
This course provides students with an introduction to oceanographic concepts and problem solving skills.

VI. Course Outline
1. History of oceanography
2. Marine Geology
   a. Plate tectonics
   b. Sediments
   c. Bathymetry
   d. Continental margins
   e. Ocean regions
3. Chemistry
   a. Marine chemistry
b. Hydrothermal vents and methane seeps
c. Nutrients
d. Coastal vs. open ocean
e. Benthic-pelagic coupling

4. Physics
   a. Physical properties of water
   b. Atmosphere-surface interactions
   c. Salinity
   d. Temperature
   e. Density

5. Ocean circulation
   a. Surface circulation
   b. Deep circulation
   c. Waves
   d. Tides

6. Biology
   a. Intertidal organisms
   b. Pelagic organisms
   c. Benthic organisms
   d. Biological Production
   e. Fisheries

7. Pollution

8. Biogeography

9. Human Interactions

VII. Instructional Goals and Student Outcomes:

A. The instructor will:
   Present the concepts important in the study of oceanography and guide students to an understanding of the principles and applications of oceanography.

B. Student Outcomes:

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply the scientific method through the formulation of hypotheses, proposing of testable predictions, and then testing to reach supportable conclusions about oceanographic processes and systems.</td>
<td>Written exam</td>
</tr>
<tr>
<td>Confirm an understanding of the fundamentals of plate tectonic theory, origin and evolution of ocean basins, oceanic circulation and its influence on major marine ecosystems.</td>
<td>Written exam</td>
</tr>
<tr>
<td>Provide an overview of the major discoveries and advances in oceanographic processes that have impacted the atmosphere and human societies.</td>
<td>Written exam</td>
</tr>
</tbody>
</table>
VIII. Suggested Text(s):

IX. Bibliography:
Curriculum Action Request
University of Alaska Anchorage
Proposal to Initiate, Add, Change, or Delete a Course or Program of Study

<table>
<thead>
<tr>
<th>1a. School or College</th>
<th>1b. Division</th>
<th>1c. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS CAS</td>
<td>AMSC Division of Math Science</td>
<td>Biological Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Course Prefix</th>
<th>3. Course Number</th>
<th>4. Previous Course Prefix &amp; Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>A179</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5a. Credits/CEU</th>
<th>5b. Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 (Lecture + Lab) (0+3)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Complete Course/Program Title</th>
<th>Fundamentals of Oceanography Laboratory Fund. of Oceanography Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbreviated Title for Transcript (30 character)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. Type of Course</th>
<th>8. Type of Action</th>
<th>9. Repeat Status No</th>
<th># of Repeats</th>
<th>Max Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Add</td>
<td>Course</td>
<td>Prefix</td>
<td>Credits</td>
</tr>
<tr>
<td>Non-credit</td>
<td>Change</td>
<td>Program</td>
<td>Credits</td>
<td>Title</td>
</tr>
<tr>
<td>CEU</td>
<td>Delete</td>
<td>Course</td>
<td>Credits</td>
<td>Title</td>
</tr>
<tr>
<td>Professional Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Grading Basis</th>
<th>11. Implementation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-F</td>
<td>From: Fall/2008</td>
</tr>
<tr>
<td>P/NP</td>
<td>To: /99999</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. Cross Listed with</th>
<th>GEOL A179</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL A179</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13. List any programs or college requirements that require this course</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>14. Coordinate with Affected Units</th>
<th>CAS, CBPP, C-Ed, CH&amp;SW, CTC, Engineering, U Honors Coll, all extended sites. E-mail to all UAA faculty. See attached Coordination Form.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>15. General Education Requirement</th>
<th>16. Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Communication</td>
<td>Laboratory exercises designed to illustrate principles and concepts developed in BIOL A178/ GEOL A178.</td>
</tr>
<tr>
<td>Written Communication</td>
<td></td>
</tr>
<tr>
<td>Quantitative Skills</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences</td>
<td></td>
</tr>
<tr>
<td>Integrative Capstone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17a. Course Prerequisite(s) (list prefix and number)</th>
<th>17b. Test Score(s)</th>
<th>17c. Co-requisite(s) (concurrent enrollment required)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>17d. Other Restriction(s)</th>
<th>17e. Registration Restriction(s) (non-codable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College</td>
<td>Placement into MATH A105 or higher.</td>
</tr>
<tr>
<td>Major</td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. Mark if course has fees</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>19. Justification for Action</th>
<th>Updating student outcomes to meet current GER descriptors.</th>
</tr>
</thead>
</table>

---

Initiator (faculty only) Date
Initiator (PRINT NAME)

Approved
Disapproved: Dean/Director of School/College Date
Approved
Disapproved: Undergraduate or Graduate Date
Approved
Disapproved: Academic Board Chairperson Date
Approved
Disapproved: Provost or Designee Date
UNIVERSITY OF ALASKA ANCHORAGE
COURSE CONTENT GUIDE

I. Implementation Date:
Fall 2008

II. Course Information
A. College: College of Arts and Sciences
B. Course Subject/Number: BIOL A179/GEOL A179
C. Course Title: Fundamentals of Oceanography Laboratory
D. Course Description: Laboratory exercises designed to illustrate principles and concepts developed in BIOL A178.
E. Credit Hours: 1.0
F. Contact Hours: 0 + 3
G. Grading Basis: A-F
H. Status of Course Relative to Degree Program:
I. Course Fees (Yes/No): Yes
J. Lab Fees (Yes/No): Yes
K. Coordination: CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. Email to all UAA faculty. See attached Coordination Form.
L. Prerequisites: Placement into MATH A105 or higher.
M. Corequisite: 
N. Registration Restrictions:

III. Course Activities:
This is a laboratory course in which topics coincide with lectures in BIOL A178.

IV. Evaluation:
Course will be graded A-F, Evaluation normally includes written and practical exams, quizzes, written exercises and problems, class discussion and special projects. Evaluation procedures are explained at the first class meeting.

V. Course Level Justification:
This course provides students with an introduction to oceanographic techniques and problem solving skills.

VI. Course Outline
1. Introduction to oceanography
2. Water sampling techniques
3. Nutrient analyses and profiles
4. Bathymetry
5. Density Profiles
6. Remote Sensing
7. Marine Chemistry
8. Estimates of Growth
9. Estimates of Production
10. Atmosphere - Ocean Interactions.
11. Waves
12. Tides
13. Intertidal Environment

VII. Instructional Goals and Student Outcomes:
A. The instructor will:
   Present the techniques in the study of oceanography and guide students to an understanding of the principles and applications of oceanography.

B. Student Outcomes:

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply the scientific method through the formulation of hypotheses, proposing of testable predictions, and then testing to reach supportable conclusions about oceanographic processes and systems.</td>
<td>Laboratory exercises</td>
</tr>
<tr>
<td>Confirm an understanding of the fundamentals of plate tectonic theory, origin and evolution of ocean basins, oceanic circulation and its influence on major marine ecosystems.</td>
<td>Laboratory exercises</td>
</tr>
<tr>
<td>Provide an overview of the major discoveries and advances in oceanographic processes that have impacted the atmosphere and human societies.</td>
<td>Paper</td>
</tr>
</tbody>
</table>

VIII. Suggested Text(s):

IX. Bibliography:
Curriculum Action Request  
University of Alaska Anchorage  
Proposal to Initiate, Add, Change, or Delete a Course or Program of Study

1a. School or College  
AS CAS

1b. Division  
AMSC Division of Math Science

1c. Department  
Geological Sciences

2. Course Prefix  
GEOL

3. Course Number  
A179

4. Previous Course Prefix & Number

5a. Credits/CEU  
1.0

5b. Contact Hours  
(Lecture + Lab)  
(0+3)

6. Complete Course/Program Title  
Fundamentals of Oceanography Laboratory  
Fund. of Oceanography Lab

Abbreviated Title for Transcript (30 character)

7. Type of Course  
☒ Academic  ☐ Non-credit  ☐ CEU  ☐ Professional Development

8. Type of Action  
☒ Course  ☐ Program

☐ Add  ☑ Change  ☐ Delete

(mark appropriate boxes)

☐ Prefix  ☐ Credits  ☑ Title

☐ Grading Basis  ☐ Course Description  ☐ Test Score Prerequisites

☐ Other Restrictions  ☐ Class  ☐ Level  ☐ College  ☐ Major

☐ Other Update CCG

9. Repeat Status No  # of Repeats  Max Credits

10. Grading Basis  
☒ A-F  ☐ P/NP  ☐ NG

11. Implementation Date  
semester/year

From:  Fall/2008  
To:  /99999

12. ☒ Cross Listed with  
BIOL A179

□ Stacked with

Cross-Listed Coordination Signature

13. List any programs or college requirements that require this course

14. Coordinate with Affected Units:  
CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. E-mail to all UAA faculty. See attached Coordination Form.

Department, School, or College

Initiator Signature  
Date

15. ☒ General Education Requirement

☐ Oral Communication  ☐ Written Communication  ☐ Quantitative Skills  ☒ Humanities  ☐ Fine Arts  ☐ Social Sciences  ☐ Natural Sciences  ☐ Integrative Capstone

16. Course Description

Laboratory exercises designed to illustrate principles and concepts developed in BIOL A178/ GEOL A178.

17a. Course Prerequisite(s) (list prefix and number)

17b. Test Score(s)

17c. Co-requisite(s) (concurrent enrollment required)

17d. Other Restriction(s)

☐ College  ☐ Major  ☐ Class  ☐ Level

17e. Registration Restriction(s) (non-codable)

Placement into MATH A105 or higher.

18. ☒ Mark if course has fees

19. Justification for Action

Updating student outcomes to meet current GER descriptors.

Initiator (faculty only)  
Date

Initiator (PRINT NAME)  
Date

Approved  
Disapproved:

Dean/Director of School/College  
Date

Approved  
Disapproved:

Department Chairperson  
Date

Approved  
Disapproved:

Undergraduate or Graduate  
Academic Board Chairperson  
Date

Approved  
Disapproved:

Provost or Designee  
Date
I. Implementation Date:
Fall 2008

II. Course Information
A. College: College of Arts and Sciences
B. Course Subject/Number: BIOL A179/GEOL A179
C. Course Title: Fundamentals of Oceanography Laboratory
D. Course Description: Laboratory exercises designed to illustrate principles and concepts developed in BIOL A178.
E. Credit Hours: 1.0
F. Contact Hours: 0 + 3
G. Grading Basis: A-F
H. Status of Course Relative to Degree Program:
I. Course Fees (Yes/No): Yes
J. Lab Fees (Yes/No): Yes
K. Coordination: CAS, CBPP, C-Ed, CH&SW, CTC, Engineering, U Honors Coll, all extended sites. Email to all UAA faculty. See attached Coordination Form.

L. Prerequisites:
M. Corequisite: Placement into MATH A105 or higher.
N. Registration Restrictions:

III. Course Activities:
This is a laboratory course in which topics coincide with lectures in BIOL A178.

IV. Evaluation:
Course will be graded A-F, Evaluation normally includes written and practical exams, quizzes, written exercises and problems, class discussion and special projects. Evaluation procedures are explained at the first class meeting.

V. Course Level Justification:
This course provides students with an introduction to oceanographic techniques and problem solving skills.

VI. Course Outline
1. Introduction to oceanography
2. Water sampling techniques
3. Nutrient analyses and profiles
4. Bathymetry
5. Density Profiles
6. Remote Sensing
7. Marine Chemistry
8. Estimates of Growth
9. Estimates of Production
10. Atmosphere - Ocean Interactions.
11. Waves
12. Tides
13. Intertidal Environment

VII. Instructional Goals and Student Outcomes:
A. The instructor will:
Present the techniques in the study of oceanography and guide students to an
understanding of the principles and applications of oceanography.

B. Student Outcomes:

<table>
<thead>
<tr>
<th>Students will be able to:</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply the scientific method through the formulation of hypotheses, proposing of testable predictions, and then testing to reach supportable conclusions about oceanographic processes and systems.</td>
<td>Laboratory exercises</td>
</tr>
<tr>
<td>Confirm an understanding of the fundamentals of plate tectonic theory, origin and evolution of ocean basins, oceanic circulation and its influence on major marine ecosystems.</td>
<td>Laboratory exercises</td>
</tr>
<tr>
<td>Provide an overview of the major discoveries and advances in oceanographic processes that have impacted the atmosphere and human societies.</td>
<td>Paper</td>
</tr>
</tbody>
</table>

VIII. Suggested Text(s):

IX. Bibliography: