

**Senate Bill No.: 0708-32**

**UNIVERSITY AT ALBANY  
STATE UNIVERSITY OF NEW YORK**

Introduced by: Department of Anthropology

Date: May 5, 2008

**REVISION TO THE HUMAN BIOLOGY MAJOR**

IT IS HEREBY PROPOSED THAT THE FOLLOWING BE ADOPTED:

1. That the attached revision to the Human Biology major be approved by the University Senate.
2. That this proposal be forwarded to the Interim President George M. Philip for approval.
3. That the revision become effective for students admitted to the University for Fall 2008.

**Rationale:**

**MEMO**

TO: Elga Wulfert, Acting Dean, CAS  
Greg Stevens, Assistant Dean, CAS  
Jim Collins, Chair, Department of Anthropology  
FROM: David Strait, Co-Director, Human Biology major  
RE: Revisions to the Human Biology major  
DATE: March 3, 2008

Dear Colleagues,

With this letter and the attached documentation, I submit for your consideration a proposal to revise the curriculum of the Human Biology major. These proposed changes are necessary in order to:

1. Better meet the needs of our students, especially in light of recent increases in enrollments,

2. Add elective courses to the major that are currently routinely accepted as course substitutions,
3. Add new or recently developed courses to the major that reflect the expertise of new faculty members,
4. Delete courses from the major that are only marginally related to Human Biology, that are no longer offered at the University, or that are rarely taken by our students, and
5. Provide a logical organizational structure to the major's required courses.

Appended to this letter, please find:

1. A bulleted summary of the proposed revisions.
2. A revised Undergraduate Bulletin entry for the Human Biology major (p.4).
3. Course action forms.
4. Course syllabi for new courses.
5. Course syllabus and lab syllabus for Bio 410 to compare the difference between the new proposed courses and the existing biology course (pp 21-25).

Thank you for considering our request.

Sincerely,

David Strait  
Associate Professor

## PROPOSAL SUMMARY

- **Reorganize required courses such that they fall into two categories, “Basic Sciences” and “Fundamentals of Human Biology.”**
  - o Basic Sciences courses include the 100- and 200-level Biology, Chemistry, Math and Physics courses that are currently required in the major.
  - o Fundamental courses include several Anthropology and Biology courses (including cross-listed courses) that are already required (Ant 110, ANT 211, Ant 312/Bio 318 **or** Ant 319).
  - o Fundamental courses also include new courses.
    - A two-semester course sequence in Human Anatomy & Physiology (Ant 313, Ant 314). This required sequence replaces two previously required courses (Ant 311 Functional Anatomy of the Human Skeleton, Bio 410 Human Physiology). Many students need this sequence as a pre-requisite for admittance to graduate programs in allied health (e.g., physical therapy, physician’s assistant).
    - Ant 411 (Paleodemography / Paleopathology). This course will be one of several that can be used to fill a “Fundamentals” requirement.
  - o One course currently among major electives is also listed under Fundamentals.
    - Ant 416 (Topics in Human Biology). This course will be one of several that can be used to fill a Fundamentals requirement. Having this variable topic course in Fundamentals adds flexibility to the major and should reduce the number of course substitutions requested by the faculty.
  - o Ant 311 and Bio 410 will become elective courses (see below).
  
- **Add several courses that are currently being taught to the list of approved electives.**
  - o Ant 111 (Introduction to the Primates)
  - o Ant 311 (formerly Functional Anatomy of the Human Skeleton, now re-named Human Osteology)
  - o Ant 317/Bio 307 (Exercise Physiology)
  - o Ant 415 (Nutritional Anthropology)
  - o Ant 419 (Human Evolutionary and Environmental Physiology)
  - o Bio 219 (Viruses and Human Society)
  - o Bio 230 (People and Resources in Ecological Perspective)
  - o Bio 314 (Microbiology)
  - o Bio 320 (Ecology)
  - o Bio 329 (Genetics of Human Disease)

- o Bio 410 (Human Physiology)
- o Sph 231 (Concepts in Epidemiology)
- o Sph 341 (Promoting Healthy People and Communities)
  
- **Develop new courses to be added to the list of electives.**
  - o Ant 315 (Forensic Anthropology)
  - o Ant 411 (Paleodemography / Paleopathology)
  
- **Remove courses from the list of electives.**
  - o Bio 112
  - o Bio 113
  - o Bio 214
  - o Bio 241
  - o Bio 303
  - o Bio 305
  - o Bio 325
  - o Bio 407
  - o Bio 416
  
- **As a result of these changes, the number and distribution of credits required for completion of the major will be changed.**
  - o The minimum number of credits corresponding to required courses increases from 40 to 42.
  - o The minimum number of credits corresponding to elective courses decreases from 15 to 13.

# HUMAN BIOLOGY PROGRAM

## Faculty

### *Distinguished Teaching Professors*

Helmut V. B. Hirsch, Ph.D.

Stanford University

### *Professors*

Timothy B. Gage, Ph.D.

Pennsylvania State University

Helen T. Ghiradella, Ph.D.

University of California, Santa

Barbara

Lawrence M. Schell, Ph.D.

University of Pennsylvania

### *Associate Professors*

Tom D. Brutsaert, Ph.D.

Cornell University

David S. Strait, Ph.D.

Stony Brook University

### *Assistant Professors*

Sharon DeWitte, Ph.D.

Pennsylvania State University

The Human Biology program is an interdepartmental (Anthropology and Biology) combined major/minor designed for students interested in a liberal arts education with particular focus on the human organism. It provides a strong background in human evolution, structure, function and behavior. This program is especially suitable for those seeking careers that deal directly or indirectly with human health and welfare (e.g., medicine, allied health [physician's assistant, physical therapy, nursing, etc.], public health), forensics, administration, business, journalism, and teaching.

Students interested in research and/or teaching careers in biological anthropology are especially encouraged to major in Human Biology. Most

graduate programs in Anthropology require undergraduate coursework in at least three of the four traditional subfields of anthropology (archaeology, cultural anthropology, biological anthropology), and some also require linguistics as the fourth subfield. It is advisable, therefore, for those intending to do graduate work in an anthropology department to take at least one course in each of these subfields. Students who plan on graduate work and professional careers in Biology are advised to major in Biological Sciences.

## Degree Requirements for the Major in Human Biology

### General Program

B.S.: Combined major and minor sequence consisting of a minimum of 55 credits to be taken from:

#### *(a) Required courses (42 credits minimum):*

##### Basic Sciences:

A Bio 110 or 110Z, A Bio 111 or 111Z, A Bio 205 or 212;

A Chm 120, 121, 124, 125;

A Mat 108 or A Psy 210 or

A Soc 221 or one semester of

college mathematics exclusive of

A Mat 100, 102, or 105;

A Phy 105.

##### Fundamentals of Human

##### Biology:

A Ant 110, 211, 313, 314, and

one of A Ant 319 or 411 or 416

or 312/A Bio 318.

#### *(b) Major electives (13 credits minimum):*

A Ant 111, 119, 310, 311, 312 or 319 or 411 or 416 *if not used in*

*(a) above*, 315, 317/A Bio 307,

365, 414, 415, 416, 418, 419,

450;

A Bio 117, 205 or 212 *if not*

*used in (a) above*, 219, 230, 308,

311, 314, 320, 329. 402, 410,

411;

A Chm 220, 221, 222, 223;

A Psy 314, 385, 387;

H Sph 201, 231, 341.

A maximum of 3 credits may be

selected from R Ssw 290/390,

A Bio 399/499 and/or A Ant

498/498, with prior approval for

appropriate activities from the

Director(s) of the Human

Biology Major. The one-credit

writing intensive courses, A Ant

389Z and A Bio 389Z, taken in

conjunction with a required or

elective course in the major, may

also yield credit toward the

major.

**From:** [Albert J Millis](#)  
**Sent:** [Monday, March 03, 2008 11:45 AM](#)  
**To:** [James P Collins](#)  
**Cc:** [Daniel D White](#)  
**Subject:** [RE: HumanBioCAF-teaching.doc](#)

Thanks Jim. Sorry for the delay but I wanted to get comments from Helen G. and Helmut H. I think that the revision looks fine and have no objections.

Best,

Al

Albert Millis, Ph.D.  
Professor and Chair, Biological Sciences  
Scientific Director, Life Sciences  
518.442.4361 Lab  
518.442.4354 Fax

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**From:** [James Collins \[mailto:collins@albany.edu\]](mailto:collins@albany.edu)  
**Sent:** [Friday, February 22, 2008 10:41 AM](#)  
**To:** [Albert J Millis](#)  
**Cc:** [Daniel D White](#)  
**Subject:** [Fw: HumanBioCAF-teaching.doc](#)  
**Importance:** [High](#)

Dear Al,

- Attached to this are a series of documents for programmatic changes in the Human Biology Program -- these concern the Anthropology end of the courses. I've approved them, but if you can look at them (if you have not already), and send back your response to me (with a CC to Dan White), then Dan can forward this to the Dean's office.

- Thanks,

- Jim

College of Arts and Sciences

Course Action Form

Proposal No. 08-045A

Please mark all that apply:

<input type="checkbox"/> New Course	Revision of:	<input type="checkbox"/> Number	<input checked="" type="checkbox"/> Description
<input type="checkbox"/> Cross-Listing		<input checked="" type="checkbox"/> Title	<input type="checkbox"/> Prerequisites
<input type="checkbox"/> Shared-Resources Course		<input type="checkbox"/> Credits	
<input type="checkbox"/> Deactivate / Activate Course (boldface & underline as .....)		<input type="checkbox"/> Other (.....)	

Department: Anthropology To be effective (semester/year): Fall 2008

Course Number: AANT311 Current: \_\_\_\_\_ New: \_\_\_\_\_ Credits: 3

Course Title: Human Osteology

Course Description to appear in Bulletin:  
 This course is an intensive study of the anatomy of the human skeleton. This course will cover bone histology, growth and development of bones, common pathological conditions, the determination of age and sex from skeletal material, and the identification of whole and fragmented bones in archaeological and forensic contexts. This course will include a laboratory component to provide students with the opportunity to examine the material discussed in class.

Prerequisites statement to be appended to description in Bulletin:  
 Junior or senior class standing

If S/U is to be designated as the only grading system in the course,

This course is (will be) cross listed with (i.e., CAS ###): \_\_\_\_\_

This course is (**will be**) a shared-resources course with (i.e., CAS " " " "): AANT510

Explanation of proposal:  
 This course will fulfill a need that is not currently met on campus. For the past several years, the Anthropology department has lacked a faculty member trained in human osteology. Dr. DeWitte is a new faculty member in the department, and she has the osteological expertise necessary to teach this course. Many undergraduate and graduate students are very interested in taking this course, and it is an essential course for any student with interests in such fields as paleoanthropology, bioarchaeology, or forensic anthropology.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department ( <b>TYPE NAME/SIGN</b> )	Date
James P. Collins	3/3/08

Approved by Chair(s) of Departments having cross-listed course(s) ( <b>PRINT NAME/SIGN</b> )	Date	Dean of College ( <b>PRINT NAME/SIGN</b> )	Date
A. Millis	3/3/08	Gregory Stevens	3/28/08

Chair of Academic Programs Committee ( <b>PRINT</b> )	Date	Dean of Graduate (Undergraduate) Studies ( <b>PRINT</b> )	Date
Nancy Denton	3/27/08		

College of Arts and Sciences

**Course Action Form**

Proposal No. 08-045B

Please mark all that apply:

<input checked="" type="checkbox"/>	New Course	Revision of:	<input type="checkbox"/>	Number	<input type="checkbox"/>	Description
<input type="checkbox"/>	Cross-Listing		<input type="checkbox"/>	Title	<input type="checkbox"/>	Prerequisites
<input checked="" type="checkbox"/>	Shared-Resources Course		<input type="checkbox"/>	Credits		
<input type="checkbox"/>	Deactivate / Activate Course (boldface & underline as .....)		<input type="checkbox"/>	Other		

Department: Anthropology To be effective (semester/year): Fall 2008

Course Current : \_\_\_\_\_ New: AANT510 Credits : 3  
 Course Title: Human Osteology

Course Description to appear in Bulletin:

This course is an intensive study of the anatomy of the human skeleton. This course will cover bone histology, growth and development of bones, common pathological conditions, the determination of age and sex from skeletal material, and the identification of whole and fragmented bones in archaeological and forensic contexts. This course will include a laboratory component to provide students with the opportunity to examine the material discussed in class.

Prerequisites statement to be appended to description in Bulletin:  
 consent of the instructor

If S/U is to be designated as the only grading system in the course,

This course is (will be) cross listed with (i.e., CAS ###):

This course is (**will be**) a shared-resources course with (i.e., CAS " " " " AANT 311

Explanation of proposal:

This course will fulfill a need that is not currently met on campus. For the past several years, the Anthropology department has lacked a faculty member trained in human osteology. Dr. DeWitte is a new faculty member in the department, and she has the osteological expertise necessary to teach this course. Many undergraduate and graduate students are very interested in taking this course, and it is an essential course for any student with interests in such fields as paleoanthropology, bioarchaeology, or forensic anthropology. This course will be a shared resource course with AANT 311, and will have the same basic objectives of that course. However, given that this course is a graduate level course, students will also be required to write an in-depth research paper (including the collection of original data, if appropriate) on a topic relevant to human osteology; students will present their findings in an oral presentation at the end of the semester.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department ( <b>TYPE NAME/SIGN</b> ) James P. Collins	Date 3/3/08
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Approved by Chair(s) of Departments having cross-listed course(s) ( <b>PRINT NAME/SIGN</b> ) A. Millis	Date 3/3/08	Dean of College ( <b>PRINT NAME/SIGN</b> ) Gregory Stevens	Date 3/28/08
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Chair of Academic Programs Committee ( <b>PRINT</b> ) Nancy Denton	Date 3/27/08	Dean of Graduate (Undergraduate) Studies ( <b>PRINT</b> )	Date
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James Collins  
Anthropology  
AS 242  
University at Albany  
Albany NY 12222  
518-442-4708  
[Collins@albany.edu](mailto:Collins@albany.edu)

To: Gregory Stevens, Assistant Dean, College of Arts and Science

From: James Collins, Chair, Anthropology

Date: February 21, 2008

Regarding: Human Biology Program Changes: Anatomy & Physiology

This is to inform you that I have considered the proposal for ANT 313 and 314, the two-course sequence in Anatomy and Physiology, which is part of the package of changes for the Human Biology Program, and I agree that it will be team taught by two Department faculty (Strait and Brutsaert, or their replacements in event of leave). This arrangement is justified given the enrollment levels, faculty teaching specialization, and the fact that both content areas are best covered simultaneously.

College of Arts and Sciences

Course Action Form

Proposal No. 08-045C

Please mark all that apply:

<input checked="" type="checkbox"/> New Course	Revision of: <input type="checkbox"/> Number	<input type="checkbox"/> Description
<input type="checkbox"/> Cross-Listing	<input type="checkbox"/> Title	<input type="checkbox"/> Prerequisites
<input type="checkbox"/> Shared-Resources Course	<input type="checkbox"/> Credits	
<input type="checkbox"/> Deactivate / Activate Course (boldface & underline as .....)	<input type="checkbox"/> Other (.....)	

Department: Anthropology To be effective (semester/year): Fall, 2008

Course Number:                      Current :                      New: Ant 313 Credits : 4

Course Title: Human Anatomy & Physiology I

Course Description to appear in Bulletin:  
 This course provides an introduction to human anatomy and physiology. These topics refer to the form and function of the human body, and are presented together in an integrated two-semester course sequence. This course focuses on basic concepts in anatomy and physiology, embryology, the peripheral nervous system, respiration, the cardiovascular system, and the musculoskeletal system of the upper limb, thorax and back. The course provides a foundation for students interested in human biology, biological anthropology, medicine, and allied health professions.

Prerequisites statement to be appended to description in Bulletin:  
 Prerequisites: A Bio 110, A Bio 111, A Chm 120, A Chm 121

If S/U is to be designated as the only grading system in the course,

This course is (will be) cross listed with (i.e., CAS ###):                     

This course is (will be) a shared-resources course with (i.e., CAS ###):                     

Explanation of proposal:  
 This course will be part of a two-semester lecture and lab sequence that will become part of the foundation of a revised Human Biology major. Moreover, students applying to graduate programs in Allied Health fields (e.g., physical therapy, nursing, physician's assistant) often need two semesters of anatomy and physiology as prerequisites for their application. U Albany does not currently offer such a class, so those students often obtain those credits at other institutions (e.g., Hudson Valley Community College). This course therefore meets a need for our students, and the Pre-Health Advisor strongly urges the teaching of this course. Funding to support the development of this course has already been provided through Selective Investment.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:  
 Biological Sciences offers an upper level Human Physiology course (Bio 410), but that course is taught at a higher level than that envisioned for the course proposed here. All students majoring in Human Biology are currently required to take Bio 410, but the dramatic recent increase in the number of students in Human Biology means that Bio 410 will experience profound enrollment pressure unless this requirement is changed. The Anatomy and Physiology sequence proposed here will replace the BIO 410 requirement for Human Biology students, allowing enrollments in BIO 410 to stay manageable. The director of that course (John Schmitt) supports the current application.

Chair of Proposing Department (TYPE NAME/SIGN)		Date	
James P. Collins		3/3/08	
Approved by Chair(s) of Departments having cross-listed course(s) (PRINT NAME/SIGN)	Date	Dean of College (PRINT NAME/SIGN)	Date
A. Millis	3/3/08	Gregory Stevens	3/28/08
Chair of Academic Programs Committee (PRINT NAME/SIGN)	Date	Dean of Graduate (Undergraduate) Studies (PRINT NAME/SIGN)	Date
Nancy Denton	3/27/08		

Syllabus – Human Anatomy & Physiology I

**Anthropology 313**  
**MWF, 11:30 - 12:25**  
**Earth Science 241**

**Dr. David Strait**

Office: AS 119  
Office hours: M 1:30-3:30  
Tel. #: 442-4717  
E-mail: dstrait@albany.edu

**Dr. Tom Brutsaert**

Office: AS 115  
Office Hours: W 2-4  
Tel. #: 442-7769  
E-mail: tbrutsae@albany.edu

**Learning objectives:** This course provides an introduction to human anatomy and physiology. These topics refer to the form and function of the human body, and are presented together in an integrated two-semester course sequence. This course focuses on basic concepts in anatomy and physiology, embryology, the peripheral nervous system, respiration, the cardiovascular system, and the musculoskeletal system of the upper limb, thorax and back. The course provides a foundation for students interested in human biology, biological anthropology, medicine, and allied health professions.

**Course Requirements:** Four multiple-choice exams. The first three exams are not cumulative, and are each worth 15% of your final grade. The final exam is cumulative and is worth 30% of your final grade. In addition, there are weekly lab assignments that are collectively worth 25% of your final grade.

**Readings:** Most readings will be assigned from two textbooks:

Grine, F.E. (2006) *Regional Human Anatomy, 3<sup>rd</sup> Edition*. Boston, McGraw Hill.

Fox, S.I (2008) *Human Physiology, 10<sup>th</sup> Edition*. Boston, McGraw Hill.

The textbooks will occasionally be supplemented with handouts that are available on E-Res (password: A&P)

The labs will also employ an interactive CD-ROM, *Anatomy & Physiology REVEALED*.

**Supplies:** Students are strongly recommended to bring colored pens or pencils to class.

## Lecture and Exam Schedule:

**Lecture 1:** Introduction; Anatomical terminology  
*Reading:* Grine, pp. 2 - 9.

**Lecture 2:** Introduction I: Basic concepts in Physiology I  
*Reading:* Fox: Chapters 1 and 2.

**Lecture 3:** Introduction II: Basic concepts in Physiology II (Fox: Chap 3)  
*Reading:* Fox: Chapter 3.

**Lecture 4:** Embryology I: The trilaminar disk  
*Reading:* Grabowski handout, pp. 91 - 99.

**Lecture 5:** Embryology II: Segmentation, somites  
*Reading:* Grabowski handout, pp. 99 - 103

**Lecture 6:** Embryology III: Folding of the embryo  
*Reading:* Grabowski handout, pp. 106 - 110.

**Lecture 7:** Embryology IV: Adult derivatives of embryological structures  
*Reading:* Moore and Persaud handout pp.78-85.

### **EXAM 1            Lectures 1-7**

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**Lecture 8:** Organization of the peripheral nervous system I: Somatic innervation  
*Reading:* Grine, pp. 34 - 39; Stern handout, pp. 17 - 26.

**Lecture 9:** Organization of the peripheral nervous system II: Visceral innervation  
*Reading:* Stern handout, pp. 26 - 43.

**Lecture 10:** Physiology of nerve impulse conduction/the nervous system  
*Reading:* Fox Chapter 7.

**Lecture 11:** Bone and muscle.  
*Reading:* Langdon handout, Chapter 3; Grine, pp. 10 - 19.

**Lecture 12:** Energetics I - Cellular energetics, endergonic and exergonic reactions.  
*Reading:* Fox Chapter 4.

**Lecture 13:** Energetics II- Glycolysis  
*Reading:* Fox Chap 5, to page 110.

**Lecture 14:** Energetics III -aerobic metabolism.  
*Reading:* Fox chap 5, rest of chapter.

**Lecture 15:** The axial skeleton.

*Reading:* Grine, pp. 24 – 33, 268-269.

**Lecture 16:** Musculature and movements of the back.  
*Reading:* Grine, pp. 40 – 46.

**EXAM 2                      Lectures 8-16**

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**Lecture 17:** Respiration.  
*Reading:* Langdon handout, Chapter 15; Grine, pp. 270, 272 – 283.

**Lecture 18:** Respiration Physiology I-ventilation.  
*Reading:* read appropriate part of Fox Chap 16.

**Lecture 19:** Respiration Physiology II-gas exchange.  
*Reading:* read appropriate part of Fox Chap 16.

**Lecture 20:** Respiration Physiology III-gas exchange.  
*Reading:* read appropriate part of Fox Chap 16.

**Lecture 21:** Respiration Physiology IV-acid base status.  
*Reading:* read appropriate part of Fox Chap 16)

**Lecture 22:** The cardiopulmonary system  
*Reading:* Langdon, Chapter 16; Grine, pp. 284 – 299.

**Lecture 23:** Overview of the circulatory system  
*Reading:* Grine, pp. 86 – 89, 138 – 141, 170 – 175, 335, 340 – 341

**Lecture 24:** Cardiovascular Physiology I –heart and circulation  
*Reading:* Fox Chapter 13

**Lecture 25:** Cardiovascular Physiology II-the cardiac cycle-electrical events.  
*Reading:* Fox Chapter 13.

**Lecture 26:** Cardiovascular Physiology III-Cardiac output, blood flow.  
*Reading:* Fox Chapter 14.

**Lecture 27:** Cardiovascular Physiology IV-Poiseuilles law.  
*Reading:* Fox Chapter 14

**EXAM 3                      Lectures 17-27**

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**Lecture 28:** The upper limb skeleton.  
*Reading:* Grine 48 – 53.

**Lecture 29:** Musculature and movements of the shoulder and arm.  
*Reading:* Grine, pp. 40 – 41, 68 – 73.

**Lecture 30:** Musculature and movements of forearm and hand I.  
*Reading:* Grine, pp. 74 - 85.

**Lecture 31:** Musculature and movements of forearm and hand II.  
*Reading:* Grine, pp. 74 - 85.

**Lecture 32:** Muscle Physiology I-Muscle architecture.  
*Reading:* Fox Chapter 12

**Lecture 33:** Muscle Physiology II-excitation contraction coupling.  
*Reading:* Fox Chapter 12

**Lecture 34:** Muscle Physiology III-neural control  
*Reading:* Fox Chapter 12

**Lecture 35:** Muscle Physiology IV-Fiber types.  
*Reading:* Fox Chapter 12.

**Lecture 36:** Innervation of the upper limb.  
*Reading:* Grine, pp. 60 - 67.

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**FINAL EXAM CUMULATIVE (50% Lectures 1-27, 50% Lectures 28-36).**

## **Lab Schedule:**

- Lab 1:** Anatomical terminology, basic osteology
- Lab 2:** Basic Principles of Physiology
- Lab 3:** Spinal cord, organization of the peripheral nervous system
- Lab 4:** Osteology, musculature and movements of the back and thorax.
- Lab 5:** Thoracic organs.
- Lab 6:** Physiology of respiration
- Lab 7:** Cardiovascular physiology
- Lab 8:** Osteology, musculature and movements of the shoulder and arm.
- Lab 9:** Osteology, musculature and movements of the forearm.
- Lab 10:** Osteology, musculature and movements of the hand.
- Lab 11:** Muscle Physiology
- Lab 12:** Innervation of the upper limb.

## **Review Lab**

College of Arts and Sciences

**Course Action Form**

Proposal No. 08-045D

Please mark all that apply:

<input checked="" type="checkbox"/> New Course	Revision of: <input type="checkbox"/> Number	<input type="checkbox"/> Description
<input type="checkbox"/> Cross-Listing	<input type="checkbox"/> Title	<input type="checkbox"/> Prerequisites
<input type="checkbox"/> Shared-Resources Course	<input type="checkbox"/> Credits	
<input type="checkbox"/> Deactivate / Activate Course (boldface & underline as .....)	<input type="checkbox"/> Other _____	

Department: Anthropology To be effective (semester/year): Fall, 2008

Course Number: \_\_\_\_\_ Current : \_\_\_\_\_ New: Ant 314 Credits : 4  
 Course Title: Human Anatomy & Physiology II

Course Description to appear in Bulletin:  
 This course provides an introduction to human anatomy and physiology. These topics refer to the form and function of the human body, and are presented together in an integrated two-semester course sequence. This course is the second in that sequence, and focuses on the gastro-intestinal tract, digestion, the urogenital, reproductive and endocrine systems, the cranial nerves, the visual, olfactory and auditory systems, and the musculoskeletal system of the lower limb, head and neck. The course provides a foundation for students interested in human biology, biological anthropology, medicine, and allied health professions.

Prerequisites statement to be appended to description in Bulletin:  
 Prerequisites: A Ant 313

If S/U is to be designated as the only grading system in the course,   
 This course is (will be) cross listed with (i.e., CAS ###): \_\_\_\_\_  
 This course is (will be) a shared-resources course with (i.e., CAS ###): \_\_\_\_\_

Explanation of proposal:  
 This course will be part of a two-semester lecture and lab sequence that will become part of the foundation of a revised Human Biology major. Moreover, students applying to graduate programs in Allied Health fields (e.g., physical therapy, nursing, physician's assistant) often need two semesters of anatomy and physiology as prerequisites for their application. U Albany does not currently offer such a class, so those students often obtain those credits at other institutions (e.g., Hudson Valley Community College). This course therefore meets a need for our students, and the Pre-Health Advisor strongly urges the teaching of this course. Funding to support the development of this course has already been provided through Selective Investment.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:  
 Biological Sciences offers an upper level Human Physiology course (Bio 410), but that course is taught at a higher level than that envisioned for the course proposed here. All students majoring in Human Biology are currently required to take Bio 410, but the dramatic recent increase in the number of students in Human Biology means that Bio 410 will experience profound enrollment pressure unless this requirement is changed. The Anatomy and Physiology sequence proposed here will replace the BIO 410 requirement for Human Biology students, allowing enrollments in BIO 410 to stay manageable. The director of that course (John Schmitt) supports the current application.

Chair of Proposing Department ( <b>TYPE NAME/SIGN</b> )	Date
James P. Collins	3/3/08

Approved by Chair(s) of Departments having cross-listed course(s) ( <b>PRINT NAME/SIGN</b> )	Date	Dean of College ( <b>PRINT NAME/SIGN</b> )	Date
A. Millis	3/3/08	Gregory Stevens	3/28/08

Chair of Academic Programs Committee ( <b>PRINT</b> )	Date	Dean of Graduate (Undergraduate) Studies ( <b>PRINT</b> )	Date
Nancy Denton	3/27/08		



Syllabus – Human Anatomy & Physiology II

**Anthropology 314**  
**MWF, 11:30 - 12:25**  
**Earth Science 241**

**Dr. David Strait**

Office: AS 119  
Office hours: M 1:30-3:30  
Tel. #: 442-4717  
E-mail: dstrait@albany.edu

**Dr. Tom Brutsaert**

Office: AS 115  
Office Hours: W 2-4  
Tel. #: 442-7769  
E-mail: tbrutsae@albany.edu

**Learning objectives:** This course provides an introduction to human anatomy and physiology. These topics refer to the form and function of the human body, and are presented together in an integrated two-semester course sequence. This course is the second in that sequence, and focuses on the gastro-intestinal tract, digestion, the urogenital, reproductive and endocrine systems, the cranial nerves, the visual, olfactory and auditory systems, and the musculoskeletal system of the lower limb, head and neck. The course provides a foundation for students interested in human biology, biological anthropology, medicine, and allied health professions.

**Course Requirements:** Four multiple-choice exams. The first three exams are not cumulative, and are each worth 15% of your final grade. The final exam is cumulative and is worth 30% of your final grade. In addition, there are weekly lab assignments that are collectively worth 25% of your final grade.

**Readings:** Most readings will be assigned from two textbooks:

Grine, F.E. (2006) *Regional Human Anatomy, 3<sup>rd</sup> Edition*. Boston, McGraw Hill.

Fox, S.I (2008) *Human Physiology, 10<sup>th</sup> Edition*. Boston, McGraw Hill.

The textbooks will occasionally be supplemented with handouts that are available on E-Res (password: A&P)

The labs will also employ an interactive CD-ROM, *Anatomy & Physiology REVEALED*.

**Supplies:** Students are strongly recommended to bring colored pens or pencils to class.

## **Lecture and Exam Schedule:**

**Lecture 1:** The anterior abdominal wall  
*Reading:* Grine, pp. 316 - 319.

**Lecture 2:** Overview of the abdominal viscera.  
*Reading:* Grine, pp. 324-334, 344 - 347, 370 - 371.

**Lecture 3:** Development of the fore- and midgut.  
*Reading:* Stern, pp. 156 - 167.

**Lecture 4:** Development of the hindgut and bladder.

**Lecture 5:** Physiology of Digestion/nutrition I- Digestive system.  
*Reading:* Fox Chapter 18

**Lecture 6:** Physiology of Digestion/nutrition II-metabolism.  
*Reading:* Fox Chapter 19

**Lecture 7:** The portacaval system.  
*Reading:* Grine, pp. 340 - 341.

### **EXAM 1 Lectures 1-7**

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**Lecture 8:** The urogenital system.  
*Reading:* Grine, pp. 344 - 349, 370 - 371.

**Lecture 9:** Renal Physiology I -comparative aspects

**Lecture 10:** Renal Physiology II-structure/function.  
*Reading:* Fox Chapter 17

**Lecture 11:** Renal Physiology III -structure function .  
*Reading:* Fox Chapter 17.

**Lecture 12:** Renal Physiology IV-renal control of electrolyte balance  
*Reading:* Fox Chapter 17.

**Lecture 13:** The male reproductive system.  
*Reading:* Grine, pp. 372 - 391

**Lecture 14:** The female reproductive system.  
*Reading:* Grine, pp. 382 - 391.

**Lecture 15:** Reproductive Physiology I.  
*Reading:* Fox Chapter 20

**Lecture 16:** Reproductive Physiology II  
*Reading:* Fox Chapter 20

**Lecture 17:** Endocrine system I.  
*Reading:* Fox Chapter 11

**Lecture 18:** Endocrine System II.  
*Reading:* Fox Chapter 11

## **EXAM 2 Lectures 8-18**

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**Lecture 19:** The lower limb skeleton.  
*Reading:* Grine, pp. 94 - 99, 356 - 359.

**Lecture 20:** Musculature of the gluteal region and thigh, movements of the hip and knee.  
*Reading:* Grine, pp. 116 - 129.

**Lecture 21:** Musculature of the leg and foot, movements of the ankle and toes.  
*Reading:* Grine, pp. 130 - 137.

**Lecture 22:** Ligaments of the lower limb joints.  
*Reading:* Grine, pp. 100 - 105.

**Lecture 23:** Innervation of the pelvis and lower limb  
*Reading:* Grine, pp. 106 - 115.

**Lecture 24:** Disorders of gait

**Lecture 25:** The skull I.  
*Reading:* Grine, pp. 180 - 189..

**Lecture 26:** The skull II.  
*Reading:* Grine, pp. 180 - 189

**Lecture 27:** The brain and meninges.  
*Reading:* Grine, pp. 207 - 223.

## **EXAM 3 Lectures 19-27**

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**Lecture 28:** The pharyngeal arches.

**Lecture 29:** Overview of the cranial nerves.  
*Reading:* Grine, pp. 224 - 237.

**Lecture 30:** The face.  
*Reading:* Grine, 190 - 191, 228 - 231.

**Lecture 31:** Development of the face.

**Lecture 32:** Olfaction, vision, hearing.

*Reading:* Langdon, Chapter 12; Grine, pp. 198-199, 225-226, 232, 252-263

**Lecture 33:** Movements of the eye.

*Reading:* Grine, pp. 227, 240 - 251.

**Lecture 34:** Mastication.

*Reading:* Grine, pp. 192 - 193, 228 - 229.

**Lecture 35:** Taste, swallowing, and the development of the tongue.

*Reading:* Grine, pp. 194 - 197, 230, 233, 237.

**Lecture 36:** Vocalization.

*Reading:* Grine, pp. 144 - 149, 162 - 167, 234 - 235.

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**FINAL EXAM CUMULATIVE (50% lectures 1-27, 50% lectures 28-36)**

## **Lab Schedule:**

- Lab 1:** Anterior and posterior abdominal walls
- Lab 2:** Abdominal viscera
- Lab 3:** Physiology of digestion
- Lab 4:** Renal physiology
- Lab 5:** Pelvic viscera
- Lab 6:** Reproductive and endocrine physiology
- Lab 7:** Osteology, musculature and movements of the pelvis and thigh
- Lab 8:** Osteology, musculature and movements of the leg and foot
- Lab 9:** Osteology of the skull
- Lab 10:** The brain
- Lab 11:** The cranial nerves
- Lab 12:** Musculature of the skull

## **Review Lab**

***FYI - To compare to the proposed Anatomy and Physiology 1 and 2 courses from Anthropology. The Bio course is taught at a more advanced level.***

**COURSE SYLLABUS-----HUMAN PHYSIOLOGY----BIO 410 2004**

**3 credits, Call No 1703, Lectures on TuTh at 11:45-1:05 in Lecture Center 22 Human Physiology Laboratory is a separate course---Bio 411Z, 2 credits, Writing Intensive.**

**Lab students must pick up their lab manuals from TAs (Aug 30-Sept 3) and attend the first lab(Sept 7-13) to keep their spots .** (TA's office locations are posted on door of lab, Bio 158 & on web site).

**Instructor:** Dr. John T. Schmidt, Professor of Biology **Office:** Bio 121C **Office hours:** Tu&Th 9-10:30AM **Telephone:** 2-4309 **Email:** js213@albany.edu, (If you can't come during office hours, call, Email or see me in class to arrange time).

**Course web site:** <http://eres.ulib.albany.edu/coursepage.asp?cid=56> (enter Bio 410, password=humanphys) Site has syllabus, lecture notes (text w/o diagrams), bank of exam questions for each exam, reserve readings, etc

**A review session will be scheduled sometime before each exam.**

**Schedule of Lecture topics & exams.**

**Readings(Vander Sherman**

**Luciano, 9<sup>th</sup> Ed)**

Aug 31 Organization, Introduction	Ch 1-3
Sept 2 Cellular needs, organ systems, homeostasis through p113	Ch 1 and Ch 4
7 Cell membrane: Diffusion and regul. of cellular contents	Ch 4
9 Diffusion potentials and the ionic basis of excitability Edwards-Permeant	Ch 6: p153-169
14 Propagation of the action potential	Ions (ERes web site)Ch 6: p169-175
16 No Class	
21 Muscle contraction: excitation contraction coupling	Ch 9p269-288
23 Muscle contraction: molecular mechanisms, exercise physiology	Ch 9p288-310;
Ch 3: p90-102	
Brown-Speed Limits (ERes Web Site)	
28 The neuromuscular synapse: chemical transmission	Ch 9: p280-
284;Ch 6 p175-179	
30 Synapses and Reflexes: Neuronal communication	Ch 6:p179-188;
Ch 10	
Oct 5 Exam I (all material to date)	
7 Sensory organs and sensory receptors	Ch 7
12 CNS Function: Videotape and discussion	Ch 8; Ch 6:p189-204
14 Specialized regions of the CNS	(Split Brain in Man-ERes web site)
19 Pain pathways, analgesics and the autonomic nervous system	Ch 6:193-
204;Ch7:219-220	
21 Circulation I: Blood volume and heart excitability	Ch 12: p375-388
26 Circulation II: EKG, blood pressure, vascular resistance	Ch 12: p389-428
28 Circulation III: Hypertension, heart failure	Ch 12: p428-465
Nov 2 Respiration I	Ch 13: p467-492
4 Respiration II:	Ch 13: p492-512
9 Exam II All material through Respiration II	
11 Kidney and control of body fluids I	Ch 14: p513-528
16 Kidney and control of body fluids II	Ch 14: p529-562

18 Digestion and absorption	Ch 15
23 Hormonal control of metabolism: insulin and diabetes	Ch 16:p605-632;
Ch 3: p97-108	
25 Thanksgiving (No Class)	
30 Temperature regulation	Ch1: p8-17; Ch 16:
p632-642	
Dec 2 Endocrine Systems	Ch 5; Ch 11 sections
A,B,C,D	
7 Sex Hormones and reproduction	Ch 17;Ch 11 sections
D,E	

**10 Final Exam in LC22: Part I (mandatory) = Exam III (material since Nov 9) (10:30AM-12:30PM) Part II (optional, covers whole course).**

**Grades** will be calculated from the scores on Exams I, II and III and attendance, with the exception that one may substitute the optional final exam for any of the three exam grades. (This will allow students to make up for one exam that they did poorly on, or missed entirely). Assured A's, B's and C's will be at the 90%, 80% and 70% levels, respectively. Cutoffs for these grades may be lowered slightly if necessary to insure that sufficient numbers of students get A's & B's. Attendance will be taken several times during the semester and will count as 3% of the grade.

**Bio 410 is an upper division course for Biology majors surveying the physiology of the various organ systems of the human body.** It will stress both general concepts and some selected details of how physiological processes are carried out and controlled. The text is Human Physiology, by Vander, Sherman and Luciano (9th Ed.). The publisher has an Online Learning Center (see textbook insert for details).

**Bio 410 is a senior level course and assumes a certain level of knowledge of biology as well as some biochemistry, physics and calculus. While these courses are not strictly required, greater effort will be needed to do well if you do not have the background in these areas. Attendance at lectures is highly correlated with getting a good grade in this course.** With a lot of material to cover, it works best to **read the assigned material before you come to class** so that you are familiar with the terminology and general concepts. **Print out the lecture notes from the website, and add your notes to them.** This familiarity will allow you to get more out of the lectures. Likewise it helps to **go over your notes right after class to fill in things that you may have neglected to write down during the lecture.** Learning research shows that spaced study sessions (going over the material several times separated by intervals) are far more effective than “cramming” the night before the exam.

Related courses are Comparative Animal Physiology, Bio 317; Neurobiology, Bio 341; Immunology, Bio 335; Comparative Anatomy of Chordates, Bio 325; Comparative Endocrinology, Bio 438; and Neural Basis of Behavior, Bio 460. Overlap with these courses is kept to a minimum. Thus, we will not cover immunology or comparative issues and only selected parts of the nervous system.

Two exams are scheduled during the semester and are listed on the lecture schedule. Due to the large size of the class, the format will be mostly multiple choice. A portion may require written answers. The **'Final Exam' will be two separate exams** (one hour each). **The first is mandatory**, will test the material since Exam II, and will be called Exam III. **The second is optional**, covers the entire course and can be substituted for one of the other exams if you did poorly on one of them. Thus, everyone will have three scores on which his/her grade will be based. A large sample of Exam questions for each exam (I, II and III) is present on the web site.

For the few who may be tempted, let me state at the outset that **the penalty for even minor cheating on an exam is a zero for that exam** (such a zero cannot be replaced by taking the optional final exam). Repeat or more serious offenses will incur



more serious penalties (course failure, suspension, etc.).

**Repeated disruptive behavior in class will also incur similar penalties (This includes noisily leaving class early and noisily entering late).**

**Attendance at lectures and preexam review sessions is strongly encouraged since the exams will emphasize lecture material.** (Attendance taken several times/semester counts 10% of your grade.) It is also important that you read the assigned text before coming to class, so that you understand the terminology and the basics of what is being covered. This is particularly important for students who have not had much background in Biology or Biochemistry, and significantly improves performance on exams. For further reading, several books and articles have been placed on reserve in the library. They are listed below for your convenience.

#### RESERVE LIST

<u>Subject</u>	<u>Author</u>	<u>Title</u>
Ionic potentials page article on ERes web site)	Edwards	Permeant ions... (3
Neurobiology (at reserve desk)	Katz	Nerve, Muscle and Synapse
reserve desk)	Nichols	From Neuron to Brain (at Record times of athletes
web site)	Brown	Speed Limits (on ERes Frog Skin Potential
(For lab people--on ERes web site)	Ussing	The Frog Skin Potential

(Many other books are available in the main library collection.)

**Lecture notes and exam questions from previous years are available on electronic reserve for your use as study materials.**

**Questions used on the actual exams are generally slightly different**, so that you must actually know the material well, not just that the answer to the osmosis question is Ab@. However, you can assess how you are doing on picking up the material from the lectures and from reading the book.

#### **Instructions:**

**Go To Website (<http://eres.ulib.albany.edu>), find your course (Bio 410), then enter password (humanphys).**

Course Syllabus 2007 Human Physiology Laboratory, Room 252: 2 Credits Bio 411Z

Contact Person: Prof. John Schmidt, 442-4309, e-mail [jschmidt@albany.edu](mailto:jschmidt@albany.edu)

Cal l No	D a t e	Time	TA Name	O f f i c e	Office Hrs	Other times	E-mail
16 33	M o n	1:40- 5:40		Bio		By appt.	
16 34	Tu e s	1:40- 5:40		Bio		By appt.	
16 35	W e d	1:40- 5:40		Bio		By appt	
80 70	Th u r	1:40- 5:40		Bio		By Appt	

**Course Prerequisite for Bio 410 (or equivalent) will be enforced. This is a Writing Intensive Course with the following Objectives for each student:**

- 1. to produce coherent texts within common college-level written forms (scientific paper format)**
- 2. to demonstrate the ability to revise and improve such texts**
- 3. to interpret, organize and plot data to support an argument in the context of known literature**

The following **three writing exercises** and special instructions (see schedule below) address these objectives:

1. *Pre-lab Sheets.* Each week before lab you will hand in (typed) the answers to the pre-lab questions for the lab manual experiments; or for the PhysioEx experiments, explain the process being investigated in each of the "Activities" (one paragraph each) and answer the questions posed in the review sheet at the end.
2. *Data Sheets:* Each week you will collect a set of data. Before you leave the lab, these data must be checked by the teaching assistant and then submitted the following week with the plots and/or tables and the required analysis such as graphs along with a short typed summary (what was done in the expt, the results, and conclusions). Data Sheets should be about 4-8 pages long--it varies with size and no of plots tables, graphs, etc. **Data sheets must be handed in during lab the week after the experiment, and will only be accepted until the Friday following the lab. The only exceptions will be made with written medical excuses.**
3. *Lab reports:* You will be required to write a major lab report covering the Skeletal Muscle lab and resubmit it with corrections. It is to be written in standard scientific paper format and must be typed. Since this course is writing intensive, a great deal of your grade will be based on this lab report, and therefore much attention should be paid to writing it well. **It is due the day of your scheduled laboratory. Late data sheets, prelabs and lab reports will be minus 10% each day and only accepted until the Friday of the week due. You must also arrange delivery of the lab report to the student doing your critique. The only exceptions will be made with a written medical excuse.**

*Final Lab Exam:* The final exam will be cumulative and composed of both essay and short answer questions and possibly a demonstration of instrument skills.

**Attendance:** You must attend all scheduled labs. If there is some *extraordinary* circumstance, which will cause you to miss lab, notify your TA as soon as possible, preferably a week in advance, to make arrangements for rescheduling. The permission of both your TA, and the other TA are necessary if you need to temporarily attend another lab section to complete an experiment.

**Grading:** Lab reports must be handed in on time to exchange them with other students who critique them. The lab report will be worth 30% of the grade (initial draft 1/2, and final draft 1/2).

Lab Report	30%
Student Critique	3%
Weekly Pre-labs	15%
Weekly Data Sheets	30%
Final Exam	10%
Attendance and TA evaluation	12%
<i>Total</i>	<i>100%</i>

#### Schedule of Labs and Assignments for Bio 411Z Fall 2007

<u>Dates</u>	<u>Lab Exercise</u>	<u>Written Assignments due</u>
Aug 27-30	PhysioEx #1 on Transpt/Perm	(No Prelab this time)
Sept 4-10	Artificial Membrane PhysioEx#1 (M meets 10 <sup>th</sup> (3rd is Labor Day); Tu, W, Th meet 4-6; following week is Roshashana/Ramadan)	Prelab Art. Memb; Data Sheet
Sept 17-20	MetaNeuron Parts I + II Sheet Art. Memb	Prelab MN Parts I+II, Data Sheet
Sept 24-27	MetaNeuron Parts III-IV Sheet--MN Parts I-II	Prelab for MN III-IV, Data Sheet
Oct 1-4	PhysioEx#2 Skel Muscle Part I for Skel Muscle	Data Sheet MN IV-V, Prelab
Oct 8-11	Physio Ex#2 Skel Muscle Part II	Data Sheet for Skel Muscle first half.
Oct 15-18	Writing Workshop & Abstr(7 copies!)	Data Sht Sk M 2 <sup>nd</sup> half, Intro
Oct 22-25	EKG+Blood Pressure due (2 copies!!!)	Prelab for EKG, Lab Report
O29-Nov1	EMG and Stretch Reflexes Critique (2copies!!)	Prelab-EMG, DataSht EKG,

Nov 5-8	Respiration	Data Sheet-EMG, Prelab-Respir
Nov 12-15	Renal Physiology	Data Sheet-Respir, Prelab
Nov 19-22	No Labs---Thanksgiving Week	Revised Lab Report due to your TA
Nov 26-29	Metabolism	Prelab on Metabolism, Data Sheet-Renal Phys
Dec 3-6	Sensory Physiology	Prelab on Sens Phys, Data Sheet on Metabolism
Dec 13	Final Exam Monday + Wednesday 10:30AM-12:30PM	
Dec 17	Final Exam Tuesday + Thursday 8:00-10:00AM	

**PLEASE NOTE:** Some students will be tempted to blowoff the computer modeling labs and exit early, because they think that since its all on the CD programs they can do it at home. These students get into trouble writing up their Data Sheets because they enter the wrong parameters, and do not have a feel for what the data should look like and what makes sense. (In addition, your TA evaluation will reflect your effort in the lab, and leaving early will lower it.) You must always finish and discuss your data with your TA before leaving. It makes writing your Data Sheets and Lab Report much easier when you understand the data in depth. In fact, you can write them on the computers in lab, and even submit it before going home.

**NOTICE:** Your writing, unlike the data generated, must be *completely yours*, and cannot be shared with your lab partners. Plagiarizing other's Data Sheets and Lab Reports will be severely penalized. Share your data but do your own writing.

Lab Reports are scheduled to be over before Thanksgiving to avoid the end of semester rush.

University at Albany – State University of New York

**College of Arts and Sciences**

**Course Action Form**

**Proposal No.** 08-045E

Please mark all that apply:

<input checked="" type="checkbox"/>	New Course	Revision of:	<input type="checkbox"/> Number	<input type="checkbox"/> Description
<input type="checkbox"/>	Cross-Listing		<input type="checkbox"/> Title	<input type="checkbox"/> Prerequisites
<input checked="" type="checkbox"/>	Shared-Resources Course		<input type="checkbox"/> Credits	
<input type="checkbox"/>	Deactivate / Activate Course (boldface & underline as appropriate)		<input type="checkbox"/> Other	

Department: Anthropology To be effective (semester/year): Fall 2008

Course Number:                      Current :                      New: AANT 315 Credits : 3

Course Title: Forensic Anthropology

Course Description to appear in Bulletin:

This course teaches the application of methods from biological anthropology and archaeology to the recovery and analysis of skeletonized human remains. The primary focus of this course is the application of these methods to investigations of unexplained deaths, including homicides, genocides, and mass disasters. Students will learn how to determine age at death, sex, ancestral affiliations, and stature from skeletal remains, and how to identify evidence of trauma and disease. Other topics include forensic botany, forensic entomology, and DNA fingerprinting

Prerequisites statement to be appended to description in Bulletin:

Junior or senior class standing

If S/U is to be designated as the only grading system in the course,

This course is (will be) cross listed with (i.e., CAS ###):

This course is (**will be**) a shared-resources course with (i.e., CAS AANT514)

Explanation of proposal:

This course will fulfill a need that is not being met on campus, as no forensic anthropology course is currently offered. There is a widespread interest in the topic among undergraduate and graduate students in the Anthropology department. This course will also be of great interest to students in other departments, such as Biological Sciences and Criminal Justice. This course will create synergy between the Anthropology Department and the Forensic Molecular Biology and Forensic Chemistry programs.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department (**TYPE NAME/SIGN**) James P. Collins Date 3/3/08

Approved by Chair(s) of Departments having cross-listed course(s) ( <b>PRINT NAME/SIGN</b> ) <u>A. Millis</u> Date <u>3/3/08</u>	Dean of College ( <b>PRINT NAME/SIGN</b> ) <u>Gregory Stevens</u> Date <u>3/28/08</u>
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Chair of Academic Programs Committee ( <b>PRINT NAME/SIGN</b> ) <u>Nancy Denton</u> Date <u>3/27/08</u>	Dean of Graduate (Undergraduate) Studies ( <b>PRINT NAME/SIGN</b> ) <u>                    </u> Date <u>                    </u>
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College of Arts and Sciences

Course Action Form

Proposal No. 08-045F

Please mark all that apply:

<input checked="" type="checkbox"/>	New Course	Revision of:	<input type="checkbox"/> Number	<input type="checkbox"/> Description
<input type="checkbox"/>	Cross-Listing		<input type="checkbox"/> Title	<input type="checkbox"/> Prerequisites
<input checked="" type="checkbox"/>	Shared-Resources Course		<input type="checkbox"/> Credits	
<input type="checkbox"/>	Deactivate / Activate Course (boldface & underline as appropriate)		<input type="checkbox"/> Other	

Department: Anthropology To be effective (semester/year): Fall 2008

Course Number: \_\_\_\_\_ Current \_\_\_\_\_ New: AANT514 Credits: 3

Course Title: Forensic Anthropology

Course Description to appear in Bulletin:

This course teaches the application of methods from biological anthropology and archaeology to the recovery and analysis of skeletonized human remains. The primary focus of this course is the application of these methods to investigations of unexplained deaths, including homicides, genocides, and mass disasters. Students will learn how to determine age at death, sex, ancestral affiliations, and stature from skeletal remains, and how to identify evidence of trauma and disease. Other topics include forensic botany, forensic entomology, and DNA fingerprinting.

Prerequisites statement to be appended to description in Bulletin:

Consent of the instructor

If S/U is to be designated as the only grading system in the course,

This course is (will be) cross listed with (i.e., CAS ###):

This course is (**will be**) a shared-resources course with (i.e., CAS AANT315)

Explanation of proposal:

This course will fulfill a need that is not being met on campus, as no forensic anthropology course is currently offered. There is a widespread interest in the topic among undergraduate and graduate students in the Anthropology department. This course will also be of great interest to students in other departments, such as Biological Sciences and Criminal Justice. This course will create synergy between the Anthropology Department and the Forensic Molecular Biology and Forensic Chemistry programs. This course will be a shared resource course with AANT 314, and will have the same basic objectives of that course. However, given that this course is a graduate level course, students will also be required to write an in-depth research paper (including the collection of original data, if appropriate) on a topic relevant to forensic anthropology; students will present their findings in an oral presentation at the end of the semester.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department ( <b>TYPE NAME/SIGN</b> )		Date	
James P. Collins		3/3/08	
Approved by Chair(s) of Departments having cross-listed course(s) ( <b>PRINT NAME/SIGN</b> )	Date	Dean of College ( <b>PRINT NAME/SIGN</b> )	Date
A. Millis	3/3/08	Gregory Stevens	3/28/08
Chair of Academic Programs Committee ( <b>PRINT</b> )	Date	Dean of Graduate (Undergraduate) Studies ( <b>PRINT</b> )	Date
Nancy Denton	3/27/08		

## **ANTHROPOLOGY 315: FORENSIC ANTHROPOLOGY**

Instructor: Sharon DeWitte, Ph.D.

Office: AS 107 Phone: 442-4715

Lab: AS 112 Phone: 442-4904

E-mail: sdewitte@albany.edu

Office hours: MW 11-12, or by appointment

### **COURSE DESCRIPTION AND FORMAT**

The primary focus of this course is forensic anthropology, the application of methods from biological anthropology and archaeology to the identification of human remains and the investigation of unexplained deaths, including homicides, suicides, genocides, and mass disasters. You will learn how investigators recover decomposed or otherwise badly damaged human remains, estimate age at death, identify evidence of cause of death, use insects to determine time since death, use DNA for identification, and much more.

This course will use both lecture and small group lab formats. Attendance is mandatory. During lectures I welcome and encourage you to ask questions, so come to class prepared to participate. All of the 'hands-on' laboratory work will be done in small groups. You will not acquire all the course material from the textbook alone, and you will be tested on material covered in lecture that may not be in the text. Therefore, it will be almost impossible to perform well in this class if you do not attend regularly. The class size is relatively small, which (hopefully) means that students will feel comfortable participating in class discussions; so the class will be much more rewarding for everyone involved if all students attend regularly. Also, participation and attendance will help improve your grade if you are on the borderline.

### **REQUIRED BOOKS**

The best strategy in this (and any) class is to read the assigned materials before lecture so that you are familiar with new terms, are prepared for class discussion, and can ask questions about any confusing material. Ideally, you should read the course material several times. The textbook material complements the material presented in lecture, so reading the textbook is not a substitute for attending lecture. The textbook for this course is:

Byers, Steven N (2005) *Introduction to Forensic Anthropology*

## GRADING

Exams: There are two midterms and a final exam, each of which are worth 25% of your grade, for a total of 75% of your final class grade. Exams will consist of multiple-choice and short answer questions. The exams are NOT cumulative – i.e. each test will cover only the material since the previous exam. The exams will cover material presented in lecture and in the assigned readings. You must take the exam on the scheduled date, unless you have a legitimate excuse and notify me **before** the exam. The two midterms will be held in the same room and at the same time as is the lecture. The time and location of the final exam will be announced.

Lab and Take-home Assignments: There will be several lab assignments which are worth a total of 20% of your grade; you **MUST** attend class to participate in the labs and receive the worksheets. I cannot set up labs for individual students who miss class; if you miss a lab and do not have a legitimate excuse, you will not earn credit for the lab. I will consider allowing make-up work for those students with legitimate excuses on a case-by-case basis.

Participation: Active participation is worth 5% of your grade. You can earn participation points by asking/answering questions during class, by participating in lab work, and by discussing course material with me during my office hours.

NO Extra Credit: I do not offer any extra credit. The time to improve your grade is during the course of the semester by putting extra effort into studying the textbook and lecture material, coming to my office hours to get help with difficult material or to develop test-taking strategies, participating in class discussions, and by completing all assignments and handing them in on time. If you feel you are not performing as well as you could – see me before it is too late; do not wait until the end of the semester to try to catch up.

## GUIDELINES

I strongly encourage you to take advantage of my office hours; stop by during my scheduled office hours or make an appointment if you need help with assignments, are confused about any of the course material, want to know how to perform better on exams, just want to talk about anthropology, etc. Do not wait until you feel overwhelmed by the course material to come to me for help.

Check the course website regularly. I will post announcements about rescheduling lectures, cancelled classes, etc. I will also post lecture outlines for each week. The purpose of these outlines is to guide your note taking in class; they will NOT substitute



for good note taking and class attendance. You will not be able to acquire all the necessary course material by simply printing out the lecture outlines – they are not complete enough. Also check the course website for instructions for the primate and hominid papers.

Dishonesty of any kind will not be tolerated in this course. Dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be dishonest will receive academic sanctions as outlined in the Shippensburg Student Handbook (<http://www.ship.edu/~deanstu/Judicial/Swataney.pdf>) and will be reported to the Dean of Students for possible further disciplinary sanction.

If you are registered with the Office of Social Equity and have special needs, please notify me immediately; I will be happy to work with you. Let me know if you anticipate needing any type of special accommodation in this course or have questions about physical access.

## COURSE SCHEDULE

Note this is schedule is subject to change.

WEEK	TOPICS	READING	LABS/TESTS
1: 1/17 – 1/20	Introduction to the course	Overview of Forensics	
2: 1/23 – 1/27 <b>lab</b>	Human Osteology	Chapter 2	
3: 1/30 – 2/3 <b>lab.</b>	Human Osteology	Chapter 2	
4: 2/6 – 2/10	Establishing the forensic context Search and Recovery	Chapter 3 Chapter 4 Chapter 6: pages 131-140	
5: 2/13 – 2/17	Estimating Time Since Death Forensic botany Forensic entomology	Chapter 5 <b>Exam 1: 2/16</b>	
6: 2/20 – 2/24	Estimating Time Since Death	Chapter 5	
7: 2/27 – 3/3	Ancestry, Sex	Chapters 7 and 8	<b>lab</b>
8: 3/6 – 3/10	Age, Stature	Chapters 9 and 10	
<b>9: Spring Break 3/9 – 3/19</b>			
10: 3/20 – 3/24	Age, Stature	Chapters 9 and 10	<b>lab</b>
11: 3/27 – 3/31 <b>2: 3/30</b>	Cause of Death	Chapters 11 and 12	<b>Exam</b>
12: 4/3 – 4/7	Cause of Death	Chapters 13 and 14	<b>lab</b>
13: 4/10 – 4/14	Skeletal Pathology	Chapter 15	<b>lab</b>
14: 4/17 – 4/21	Taphonomy:	Chapter 16 dismemberment, scavenging	
<b>Mini-break: No class Tuesday</b>			
15: 4/24 – 4/28 <b>lab</b>	Identification:	Chapters 17 and 18 Special methods (DNA, X-rays, etc.)	
16: 5/1 – 5/5	Human Rights Cases		
<b>FINALS WEEK 5/15 -5/19</b>			

University at Albany – State University of New York

**College of Arts and Sciences**

**Course Action Form**

**Proposal No.** 08-045G

Please mark all that apply:

<input checked="" type="checkbox"/>	New Course	Revision of:	<input type="checkbox"/>	Number	<input type="checkbox"/>	Description
<input type="checkbox"/>	Cross-Listing		<input type="checkbox"/>	Title	<input type="checkbox"/>	Prerequisites
<input type="checkbox"/>	Shared-Resources Course		<input type="checkbox"/>	Credits		
<input type="checkbox"/>	Deactivate / Activate Course (boldface & underline as .....)		<input type="checkbox"/>	Other		

Department: Anthropology To be effective (semester/year): Fall 2008

Course Number : \_\_\_\_\_ Current : \_\_\_\_\_ New: AANT411 Credits : 3

Course Title: Paleodemography/Paleopathology

**Course Description to appear in Bulletin:**  
 This course is partly an introduction to the conceptual and analytic aspects of paleodemography - a field that uses skeletal samples from archaeological excavations to reconstruct past population dynamics. This course will cover the special problems associated with reconstructing demographic patterns from skeletal samples, such as biases in age estimation methods, preservation biases, and selective mortality. This course is also an intensive study of human disease in past populations and will focus on the identification and interpretation of osteological indicators of health and disease from human skeletal remains. Topics covered include age estimation and sex determination, specific and non-specific skeletal lesions, temporal and spatial variation of disease in humans, the use of radiographs to aid in differential diagnosis of disease, and ancient DNA techniques.

**Prerequisites statement to be appended to description in Bulletin:**  
 Junior or senior class standing

If S/U is to be designated as the only grading system in the course,

This course is (will be) cross listed with (i.e., CAS ###): \_\_\_\_\_

This course is (will be) a shared-resources course with (i.e., CAS ###): \_\_\_\_\_

**Explanation of proposal:**  
 This course will fulfill a need that is not currently met on campus. For the past several years, the Anthropology department has lacked a faculty member trained in human osteology, paleodemography, and paleopathology. Dr. DeWitte is a new faculty member in the department, and her area of expertise is paleodemography and paleopathology. Students will also be required to write an in-depth research paper (including the collection of original data, if appropriate) on a topic relevant to paleodemography; students will present their findings in an oral presentation at the end of the semester.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

<b>Chair of Proposing Department (TYPE NAME/SIGN)</b>		<b>Date</b>	
James P. Collins		3/3/08	
<b>Approved by Chair(s) of Departments having cross-listed course(s) (PRINT NAME/SIGN)</b>	<b>Date</b>	<b>Dean of College (PRINT NAME/SIGN)</b>	<b>Date</b>
A. Millis	3/3/08	Gregory Stevens	3/28/08
<b>Chair of Academic Programs Committee (PRINT NAME/SIGN)</b>	<b>Date</b>	<b>Dean of Graduate (Undergraduate) Studies (PRINT NAME/SIGN)</b>	<b>Date</b>
Nancy Denton	3/27/08		

# **ANTHROPOLOGY 411: PALEODEMOGRAPHY AND PALEOPATHOLOGY**

Instructor: Sharon DeWitte, Ph.D.  
Office: AS 107  
Lab: AS 112  
E-mail: sdewitte@albany.edu

## **COURSE DESCRIPTION AND FORMAT**

This course is partly an introduction to the conceptual and analytic aspects of paleodemography – a field that uses skeletal samples from archaeological excavations to reconstruct past population dynamics. This course will cover the special problems associated with reconstructing demographic patterns from skeletal samples, such as biases in age estimation methods, preservation biases, and selective mortality. This course is also an intensive study of human disease in past populations and will focus on the identification and interpretation of osteological indicators of health and disease from human skeletal remains. Topics covered include age estimation and sex determination, specific and non-specific skeletal lesions, temporal and spatial variation of disease in humans, the use of radiographs to aid in differential diagnosis of disease, and ancient DNA techniques.

This course will use both lecture and discussion formats. This course will be enjoyable and successful for me and you only if every student actively participates. When I lecture, do not hesitate to ask questions or make comments – this will alleviate boredom, let me know that you are paying attention, and clarify things for you, your fellow students, and me. Do the readings and be prepared to comment on them during class.

## **REQUIRED TEXT**

The required textbook for this course is:

Chamberlain A (2006). *Demography in archaeology*. Cambridge: Cambridge University Press.

You are also required to read additional readings which will be made available on Blackboard. :

Angel JL. 1969. The bases of paleodemography. *Am J Phys Anthropol* 30(3):427-437.

Angel JL. 1981. History and development of paleopathology. *Am J Phys Anthropol* 56(4):509-515.

Bocquet-Appel JP, and Masset C. 1982. Farewell to paleodemography. *J Hum Evol* 11:321-333.

Bocquet-Appel JP, and Masset C. 1996. Paleodemography: expectancy and false hope. *Am J Phys Anthropol* 99(4):571-583.

Boldsen JL, Milner GR, Konigsberg LW, and Wood JW. 2002. Transition analysis: A new method for estimating age from skeletons. In: Hoppa RD, and Vaupel JW, editors. *Paleodemography: Age distributions from skeletal samples*. Cambridge: Cambridge University Press. p 73-106.

Buikstra JE. 1997. Paleodemography: Context and promise. In: Paine RR, editor. *Integrating archaeological demography : multidisciplinary approaches to prehistoric population*. Carbondale, Ill: Center for Archaeological Investigations, Southern Illinois University at Carbondale

Cohen MN, Armelagos GJ, Wenner-Gren Foundation for Anthropological Research., and State University of New York College at Plattsburgh. 1984. *Paleopathology at the origins of agriculture*. New York: Academic Press. xx, 615 p. p.

Gage TB. 1988. Mathematical hazard models of mortality: an alternative to model life tables. *Am J Phys Anthropol* 76(4):429-441.

Hoppa RD, and Vaupel JW. 2002. *Paleodemography : age distribution from skeletal samples*. Cambridge Cambridge University Press.

Konigsberg LW, and Frankenberg SR. 1992. Estimation of age structure in anthropological demography. *Am J Phys Anthropol* 89(2):235-256.

Konigsberg LW, and Frankenberg SR. 2002. Deconstructing death in paleodemography. *Am J Phys Anthropol* 117(4):297-309.

Larsen CS. 1997. *Bioarchaeology : interpereting behavior from the human skeleton*. New York: Cambridge University Press. xii, 461 p. p.

Lotka AJ. 1907. Mode of growth of material aggregates. *Am J Sci* 24:199-216.

Milner GR, and Smith VG. 1990. Oneota human skeletal remains. *Archaeological investigations at the Morton Village and Norris Farms 36 cemetery: Illinois Sate Museum Reports of Investigations*. p 111-148.

Milner GR, Wood JW, and Boldsen JL. 2000. Paleodemography. In: Saunders S, and Katzenberg M, editors. *Skeletal biology of past peoples: Research methods*. NY: Wiley-Liss. p 467-497.

Vaupel JW, and Yashin AI. 1985. Heterogeneity's ruses: some surprising effects of selection on population dynamics. *American Statistician* 39:176.

Wood JW, Milner GR, Harpending HC, and Weiss KM. 1992. The Osteological Paradox: Problems of Inferring Prehistoric Health from Skeletal Samples. *Current Anthropology* 33:343-370.

## ONLINE MATERIAL

Course announcements, lecture slides and additional readings will be available via Blackboard. Check Blackboard regularly for updates to the course schedule or any other relevant announcements. You will also be able to check your grades throughout the semester via Blackboard.

NOTE: The lecture slides provide only the barest outline of the course material – they should be used to guide your note-taking, NOT as a substitute for actually attending class. You CANNOT get all the information you'll need from the lecture slides alone. To do well in this course, you must attend class regularly and do the labs.

## GRADING

**Class participation:** You will do well in this class only if you actively participate. Ask questions during lectures and participate in discussions. I will take note of who talks – the more you participate, the better your grade. You may also use the discussion forum on Blackboard to earn participation points – if you engage in substantive discussions of the course material!

**Attendance:** Attendance is mandatory in this course and is reflected in your participation grade. Poor attendance suggests you are not committed to doing well in the course. I will deduct points from your final grade if you have more than 3 unexcused absences. However, keep in mind that I am a totally reasonable person, and I understand that students get ill, have family emergencies, observe religious holidays, have car trouble, suffer power failures that render alarm clocks useless, etc. I penalize only those students who miss many classes without providing a reasonable explanation.

**Exams:** There will be two exams (i.e. a midterm and a final) which will include short definition and essay questions. The exams will cover material presented in lecture and in the assigned readings. The final IS CUMULATIVE. You must take the exams on the scheduled dates. Make-ups will not be possible after the exam has been given unless you have an extraordinarily good excuse for missing the exam. If you know in advance that you will miss an exam, a makeup can be arranged for a time **prior** to the scheduled in-class exam – but you must give me plenty of notice (i.e. several days, at least).

**Term Paper and Presentation:** You will write a 10 page paper (double-spaced, 12-point font, 1 inch margins) on a topic related to paleodemography and/or paleopathology that interests you and that will not be covered in detail by me during the class. The 15 page requirement does not include the list of references. You MUST obtain my approval of your topic. I will not accept your paper and you will get zero credit if you do not obtain permission for the topic. Papers are due on the last day of classes. You will make a short presentation of your topic during class. Presentation guidelines will be posted on Blackboard.

**Grades:** This course uses the A-E grade system. Your final grade is determined by the points you earn out of a total possible 400 points.

<b>class participation:</b>	<b>25 points</b>
<b>term paper:</b>	<b>100 points</b>
<b>exams: 2 × 100 points</b>	<b>200 points</b>
<b>TOTAL</b>	<b>325 pts</b>

The following is the **tentative** grade scale for this course (I reserve the right to use a more lenient scale if appropriate):

<b>A:</b> 93-100%	<b>B+:</b> 87-89.9%	<b>C+:</b> 77-79.9%	<b>D+:</b> 67-69.9%
<b>A-:</b> 90-92.9%	<b>B:</b> 83-86.9%	<b>C:</b> 73-76.9%	<b>D:</b> 63-66.9%
	<b>B-:</b> 80-82.9%	<b>C-:</b> 70-72.9%	<b>D-:</b> 60-62.9%
<b>E:</b> <60%			

### **ACADEMIC INTEGRITY**

Dishonesty of any kind will not be tolerated in this course. Dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be dishonest will receive academic sanctions as outlined in the university's Admission and Graduate Requirements:

[http://www.albany.edu/grad/requirements\\_general\\_admissions.shtml#student\\_responsibility](http://www.albany.edu/grad/requirements_general_admissions.shtml#student_responsibility)

### **STUDENTS WITH DISABILITIES**

Reasonable accommodations will be provided for students with documented physical, sensory, systemic, cognitive, learning and psychiatric disabilities. If you believe you have a disability requiring accommodation in this class, please notify the Director of Disabled Student Services (Campus Center 137, 442-5490). That office will provide the course instructor with verification of your disability, and will recommend appropriate accommodations.

## COURSE SCHEDULE

Note this schedule is subject to change. Check the announcements on Blackboard regularly for any changes to the schedule.

WEEK	TOPIC	ASSIGNMENTS
<b>1: 1/23-1/25</b>	Intro to Course Overview and History	Blackboard Readings
<b>2: 1/28-2/1</b>	Basic Demographic Concepts Life Tables	Blackboard Readings
<b>3: 2/4-2/8</b>	Early Challenges	Ch 2 Blackboard Readings
<b>4: 2/11-2/15</b>	Theoretical Foundations	Ch 2 Blackboard Readings
<b>5: 2/18-2/22</b>	<b>NO CLASS Monday: Winter Break</b>  Age and Sex Estimation	Ch 3, 4 Blackboard Readings
<b>6: 2/25-2/29</b>	Age-at-Death Distributions, Non-Stationarity, and Fertility	Ch 5 Blackboard Readings
<b>7: 3/3-3/7</b>	Heterogeneous Frailty and Selective Mortality	Ch 6 Blackboard Readings
<b>8: 3/10-3/14</b>	Overview of Bone Biology Basic Pathology  <b>Friday: EXAM</b>	Ch 7, 8 Blackboard Readings
<b>9: 3/17-3/21</b>	<b>NO CLASS Friday (Spring Break begins)</b>	Ch 8, 9 Blackboard Readings
<b>10: 3/24-3/28</b>	<b>NO CLASS: Spring Break</b>	



<b>11: 3/31-4/4</b>	Skeletal Infection: Non-specific	Ch 10 Blackboard Readings
<b>12: 4/7-4/11</b>	Skeletal Infection: Specific	Ch 11 Blackboard Readings
<b>13: 4/14-4/18</b>	Skeletal Trauma Dietary Reconstruction	Blackboard Readings
<b>14: 4/21-4/25</b>	Agriculture, Urbanization, Modernization	Ch 13 Blackboard Readings
<b>15: 4/28-5/2</b>	<b>Student Presentations</b>	Blackboard Readings Ch 13
<b>16: 5/5 Last Day of Class</b>	<b>Student Presentations</b>	Ch 14 Blackboard Readings

**Final Exam: Wednesday, May 14, 5:45-7:45 pm**