

# Armstrong

UNIVERSITY CURRICULUM COMMITTEE  
University Hall 282  
Minutes, January 14, 2015

**PRESENT:** Myka Campbell, Suzanne Carpenter, Becky da Cruz, Mirari Elcoro, Katrina Embrey, Sara Gremillion (vice chair), Robert Harris, Jackie Kim, David Lake (chair), Kam Fui Lau, Julie Swanstrom, James Todesca, Phyllis Fulton (Catalog Editor)

**ABSENT:** Anthony Parish

**GUESTS:** Bill Baird, Donna Brooks, Brent Feske, John Hobe, Rock McCaskill, Sandy Streater, David Ward, Jane Wong

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**CALL TO ORDER.** The meeting was called to order at 3:02 p.m. by Dr. David Lake.

**APPROVAL OF MINUTES.** The minutes December 3, 2014 were approved as presented.

## ITEMS

### I. College of Education

#### A. Childhood and Exceptional Student Education

*Items 1-4 from the Department of Childhood and Exceptional Student Education were discussed and approved by the committee. They are being submitted to the Faculty Senate for approval.*

**1. Create the following course:**

**ECUG 4075 Teaching of Social Studies and Science**

**3-V-3**

**Prerequisites: Admission to Candidacy in the Department of Childhood and Exceptional Student Education and EDUC 3200, ECUG 3040, ECUG 3060**

**Emphasizes the teaching and learning of meaningful social studies and science concepts for children in grades PreK-5. A field experience is required.**

Rationale: By combining the social studies methods and science methods courses, a mathematics methods course can be developed and added to the program of study.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Childhood and Exceptional Student Education**  
**Can Course be repeated for additional credit? No**  
**Maximum Number of Credit Hours: 3**  
**Grading Mode: Normal**  
**Instruction Type: Lecture**  
**Course Equivalent: ECUG 4070 & ECUG 4080**

**2. Delete the following courses:**

~~ECUG 4070 SOCIAL STUDIES~~

~~3-V-3~~

~~ECUG 4080 METHODS IN EARLY CHILDHOOD SCIENCE~~

~~3-V-3~~

Rationale: By combining the social studies methods and science methods courses, a mathematics methods course can be developed and added to the program of study.

**Effective Term: Fall 2015**

**3. Create the following course:**

**ECUG 4085 Teaching of Mathematics**

**3-V-3**

**Prerequisites: Admission to Candidacy in the Department of Childhood and Exceptional Student Education and EDUC 3200, ECUG 3040, ECUG 3060.**

**Emphasizes the teaching and learning of meaningful mathematics to children in grades PreK-5. A field experience is required.**

**Co-requisite: ECUG 3750**

Rationale: Since students in Fall of 2015 will be required to complete a math section on edTPA, it's essential that a math methods course be developed.

**Effective Term: Spring 2016**

**CURCAT:**

**Major Department: Childhood and Exceptional Student Education**

**Can Course be repeated for additional credit? No**

**Maximum Number of Credit Hours: 3**

**Grading Mode: Normal**

**Instruction Type: Lecture**

**Course Equivalent: None**

**4. Modify the following program of study:**

**Program for the Degree of Bachelor of Science in Early Childhood Education**

**Track 1: Early Childhood Education with Teacher Certification**

**B. Major Field Courses .....47 hours**

EDUC 3100 Technology Applications for Teachers

EDUC 3200 Curriculum, Instruction, and Assessment

EDUC 3300 Educating Students with Disabilities in the General Education Classroom  
 ECUG 3040 Childhood Development from Prenatal Period to Adolescence  
 ECUG 3060 Language Arts: Oral Language, Writing, Spelling And Grammar  
 ECUG 3071 Teaching Children’s Literacy  
 ECUG 3072 Teaching of Reading  
 ECUG 3750 Internship I Pre-Student Teaching  
~~ECUG 4070 Social Studies~~  
~~ECUG 4080 Methods in Early Childhood Science~~  
**ECUG 4075 Teaching of Social Studies and Science**  
**ECUG 4085 Teaching of Mathematics**  
 ECUG 4090 Classroom Management  
 ECUG 4300 Language Arts Assessment and Modification  
 ECUG 4750 Internship II Student Teaching

## B. Secondary, Adult, and Physical Education

*Item 1 from the Department of Secondary, Adult, and Physical Education was discussed and the undergraduate portion approved by the committee. It is being submitted to the Graduate Curriculum Committee and therefore is marked “For Information Only” for the report to the Senate.*

### 1. Create the following course:

**EDUC 5750U/G Extended Field Experience** **V-V-(3-9)**  
**Undergraduate Prerequisite: Satisfactory score(s) on the appropriate GACE II certification test(s), and completion of all coursework in the program of study.**  
**Graduate Prerequisite: Satisfactory score(s) on the appropriate GACE II certification test(s), and completion of all coursework in the program of study.**  
**This field experience is a targeted experience in Planning, Instruction, and /or Assessment based on the performance assessment data. Completion and submission of a national pedagogical assessment is required (edTPA).**

**Rationale:** In order to be a “program completer” in the state of Georgia, educator preparation candidates must take and pass a 3 task, 15/16 rubric pedagogical content performance assessment, edTPA. Undergraduate students must have completed ECEG 4750, SPED 4750, PEHM 4750 or MGSE 4750 and graduate students must have completed ECMT 6750, EEXE 6750 or SCED 6750. Undergraduate students must enroll in EDUC 5750U and graduate students must enroll in EDUC 5750G. This is a rigorous assessment that is portfolio based and developed by the candidate during clinical internship II (student teaching). In order for candidates to take the assessment they must be affiliated as a candidate (student) in a College of Education or Educator Preparation Program (EPP). Though we expect all of our candidates will be successful on the assessment that is scored nationally by external scorers hired by Pearson, the College of Education wants to create opportunities for those students who may struggle, or not pass particular rubric(s) or task(s). This is a highly

consequential assessment that is required of all new teachers entering the profession in Georgia. Currently there is no cut score published by the Georgia Professional Standards Commission, though the ‘rule’ goes into effect July 1, 2015. Another new rule that impacts enrollment in this course is the requirement that anyone who is doing field experiences or internships in Georgia public schools must attain a Pre-service Certificate. The Pre-service Certificate is connected to a sponsoring EPP, and once a candidate is labeled “program completer” the Pre-service Certificate is removed immediately, regardless of passing the required assessments necessary for teacher certification in Georgia. edTPA is a field based assessment that candidates must provide evidence including videotaping of instruction and assessment, as well as student artifacts. The assessment cannot be completed without a field placement, or affiliation with an EPP. Therefore, it is imperative that we have opportunities for candidates to “re-take” the edTPA, as well as retain their Pre-service Certificate in order to support candidate progression to eligibility to become teachers in Georgia.

Another possible target group who would register for this course includes “new teachers” (less than 3 years experience) from other states, which must take and pass the edTPA in order to obtain an Induction Certificate in Georgia.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Secondary, Adult, and Physical Education**

**Can course be repeated for additional credit? Yes**

**Maximum number of credit hours: 9**

**Grading Mode: S/U**

**Instruction Type: Lab**

## **II. College of Health Professions**

A. Diagnostic and Therapeutic Sciences (no items)

### **B. Health Sciences**

*Item 1 from the Department of Health Sciences was discussed and approved by the committee. It is being submitted to the Faculty Senate for approval.*

1. Modify the following program of study:

**Program for the Degree of Bachelor of Health Science**

**Track One: Health Services Administration**

**C. Related Field Courses .....48 hours**

GERO 5500U Survey of Gerontology

**HLPR 2200 Interprofessional Teams in Healthcare Organizations**

HSCA 3600 Financial Management for Health-Related Organizations

HSCA 4201 Health Care Marketing  
 HSCA 4600 Principles of Human Resources Management  
 HSCA 4610 Health Care Economics  
 HSCA 4620 Principles of Management in Health Services Organizations  
 HSCA 4630 Health Information Systems  
 HSCA 4655 Principles of Health Insurance and Reimbursement  
 HSCA 4660 Survey of Health Outcomes  
 HSCC 3130 Health Policy Issues  
 HSCP 2000 Ethical Theories/Moral Issues in Health  
 MHSA 5800U Comparative Health Care Systems  
 Students must take ~~12~~-9 hours from this list

ECON 2105 Macroeconomics  
 ECON 2106 Microeconomics  
 GERO 5510U Healthy Aging  
 HSCC 4005 Interprofessional Patient Advocacy Internship  
 HSCC 4950 Practicum  
 HSCF 3710 Worksite Wellness and Safety  
 HSCP 2050 Introduction to the Disease Continuum  
 HSCP 4000 Independent Study in Health Sciences  
 PSYC 5150U Conflict Resolution  
 PSYC 5300U Leadership and Group Dynamics  
 PUBH 5560U Introduction to International Health  
 PUBH 5570U Women and Minority Health Issues  
 SPAN 1001 Elementary Spanish I  
 SPAN 1002 Elementary Spanish II

Rationale: HLPR 2200 is a newly created course that would give health administration students exposure to other health professional disciplines and foster the development of inter-professional team skills that are congruent with the CHP strategic plan. The track allowed for 12 hours of electives, giving the program flexibility to add an additional required course to the major.

**Effective Date: Fall 2015**

- C. Nursing (no items)
- D. Rehabilitation Sciences (no items)

III. College of Liberal Arts (no items)

#### **IV. College of Science and Technology**

##### **A. Biology**

*Item 1 from the Department of Biology was discussed and approved by the committee. It is being submitted to the Faculty Senate for approval.*

**1. Modify the following program of study:**

**PROGRAM FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY**

**Track I: General Biology**

**B. Major Field Courses .....31-38~~32-39~~ hours**

Required Courses (~~15-14~~ hours)

- BIOL 2020 Plant Biology
- BIOL 3000 Cell Biology
- BIOL 3050 General Ecology
- BIOL 3700 Genetics

Elective Courses (~~18~~17-24 hours)

Choose one of the following:

- BIOL 4150 Plant Physiology
- BIOL 4200 Mammalian Physiology
- BIOL 4210 Comparative Physiology

Choose one of the following:

- BIOL 3250 Limnology
- BIOL 3470 Environmental Restoration
- BIOL 3600 Salt Marsh Ecology
- BIOL 4320 Environmental Microbiology
- BIOL 4460 Phytoplankton Ecology
- BIOL 4750 Tropical Field Biology
- BIOL 4240 Behavioral Ecology**

Choose two of the following:

- BIOL 3030 Evolution
- BIOL 3520 Medical Microbiology
- BIOL 4000 Cancer Biology
- BIOL 4100 Cell and Molecular Biology Laboratory
- BIOL 4220 Endocrinology
- BIOL 4230 Neurophysiology and Disease
- BIOL 4310 Applied Microbiology
- BIOL 4400 Virology
- BIOL 4500 Bioinformatics and Biotechnology
- BIOL 4510 Molecular Development
- BIOL 4520 Epigenetics
- BIOL 4650 Immunology

Choose two of the following:

- BIOL 3020 Vertebrate Zoology
- BIOL 3150 Horticulture
- BIOL 3200 Plant Taxonomy
- BIOL 3300 Entomology
- BIOL 3310 Invertebrate Zoology
- BIOL 3750 Natural History of Vertebrate Animals
- BIOL 3770 ~~Developmental and~~ Comparative **Vertebrate** Anatomy ~~of the~~  
~~Vertebrates~~
- BIOL 3800 Mycology

BIOL 3920 Parasitology  
 BIOL 3950 Human Embryology  
 BIOL 4470 Sea Turtle Biology  
 BIOL 4550 Biology of Marine Organisms  
 BIOL 4600 Ichthyology

**C. Related Field Course ..... 1 hour**

CHEM 2101L Organic Chemistry I Lab

**D. Electives ..... ~~20-27~~21-28 hours**

Select free electives to bring total of 3000+ course work to at least 39 hours.

**Track II: Marine Biology**

**B. Major Field Courses ..... ~~32-35~~31-34 hours**

Required Courses (~~19~~18 hours)

BIOL 2020 Plant Biology  
 BIOL 3000 Cell Biology  
 BIOL 3050 General Ecology  
 BIOL 3700 Genetics  
 BIOL 4550 Biology of Marine Organisms

Elective Courses (13-16 hours)

Choose one of the following:

BIOL 4150 Plant Physiology  
 BIOL 4200 Mammalian Physiology  
 BIOL 4210 Comparative Physiology

Choose one of the following:

BIOL 3020 Vertebrate Zoology  
 BIOL 3310 Invertebrate Zoology  
 BIOL 3750 Natural History of Vertebrate Animals  
**BIOL 3770 Comparative Vertebrate Anatomy**

Choose two of the following:

BIOL 3030 Evolution  
 BIOL 3200 Plant Taxonomy  
 BIOL 3250 Limnology  
 BIOL 4320 Environmental Microbiology  
 BIOL 4460 Phytoplankton Ecology  
 BIOL 4470 Sea Turtle Biology  
 BIOL 4600 Ichthyology  
**BIOL 4240 Behavioral Ecology**  
 BIOL 4750 Tropical Field Biology

**C. Related Field Courses .....9 hours**

CHEM 2101L Organic Chemistry I Lab

PHYS 1111K Introductory Physics I or PHYS 2211K Principles of Physics I

MATH 1161 Calculus I (If taken in core area A, then substitute with either MATH 2072; PHYS 1112K or PHYS 2212K)

**D. Electives ..... ~~16-19~~17-20 hours**

Select free electives to bring total of 3000+ course work to at least 39 hours.

**Track III: Cell and Molecular Biology****B. Major Field Courses .....25-28 hours**

Required Courses (12 hours)

BIOL 3000 Cell Biology

BIOL 3700 Genetics

BIOL 4100 Cell and Molecular Biology Laboratory

BIOL 4500 Bioinformatics and Biotechnology

Elective Courses (13-16 hours)

Choose one of the following:

BIOL 4150 Plant Physiology

BIOL 4200 Mammalian Physiology

BIOL 4210 Comparative Physiology

Choose one of the following:

BIOL 3020 Vertebrate Zoology

BIOL 3030 Evolution

BIOL 3300 Entomology

BIOL 3310 Invertebrate Zoology

BIOL 3750 Natural History of Vertebrate Animals

**BIOL 3770 Comparative Vertebrate Anatomy**

BIOL 3800 Mycology

BIOL 3920 Parasitology

Choose two of the following:

BIOL 3520 Medical Microbiology

BIOL 3950 Human Embryology

BIOL 4000 Cancer Biology

BIOL 4220 Endocrinology

BIOL 4230 Neurophysiology and Disease

BIOL 4310 Applied Microbiology

BIOL 4320 Environmental Microbiology

BIOL 4400 Virology

BIOL 4510 Molecular Development

BIOL 4520 Epigenetics

BIOL 4650 Immunology

Rationale: To incorporate new classes, to update modified classes, and to change credit hour allocation due to separation of BIOL 3050 and BIOL 3050L and making BIOL 3050L optional at the December meeting.

**Effective Date: Fall 2015**

**B. Chemistry and Physics**

*Items 1-12 from the Department of Chemistry and Physics were discussed and approved by the committee. They are being submitted to the Faculty Senate for approval.*



## Biochemistry Curriculum Items

### 1. Create the following course:

**BCHM 2900 INTRODUCTION TO BIOCHEMICAL RESEARCH 0-(3-9)-(1-3)**

**Prerequisite: permission of the department head, declared biochemistry major.**

**Prerequisite or co-requisite: CHEM 1211**

**Faculty originated biochemical lab-based research project. Written report required.**

Rationale: When developing the B.S. Biochemistry program of study, undergraduate research in biochemistry was inadvertently omitted from the program of study. This course is in line with other research opportunities for students in our department (CHEM 2900, 3900, 4991, PHYS 2900, 4991) and our College.

**Effective Term: Fall 2015**

#### **CURCAT:**

**Major Department: Chemistry and Physics**

**Can course be repeated for additional credit: Yes**

**Maximum Number of Credit Hours: 9**

**Grading Mode: S/U**

**Instruction Type: Laboratory**

### 2. Create the following course:

**BCHM 3900 BIOCHEMICAL RESEARCH 0-(3-9)-(1-3)**

**Prerequisite: permission of department head, declared biochemistry major.**

**Prerequisite or co-requisite: CHEM 2102**

**Faculty originated biochemical lab-based research project. Scientific paper required.**

Rationale: When developing the B.S. Biochemistry program of study, undergraduate research in biochemistry was inadvertently omitted from the program of study. This course is in line with other research opportunities for students in our department (CHEM 2900, 3900, 4991, PHYS 2900, 4991) and our College.

**Effective Term: Fall 2015**

#### **CURCAT:**

**Major Department: Chemistry and Physics**

**Can course be repeated for additional credit: Yes**

**Maximum Number of Credit Hours: 9**

**Grading Mode: S/U**

**Instruction Type: Laboratory**

### 3. Create the following course:

**BCHM 4991 ADVANCED BIOCHEMICAL RESEARCH 0-(3-9)-(1-3)**

**Prerequisite: permission of department head, declared biochemistry major and CHEM 3801 and BCHM 3811**

**Prerequisite or co-requisite: BCHM 4501**

**Faculty-originated biochemical lab-based research project. Literature evaluation and lab investigation. Scientific paper and oral presentation to faculty.**

Rationale: When developing the B.S. Biochemistry program of study, undergraduate research in biochemistry was inadvertently omitted from the program of study. This course is in line with other research opportunities for students in our department (CHEM 2900, 3900, 4991, PHYS 2900, 4991) and our College.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Chemistry and Physics**

**Can course be repeated for additional credit: Yes**

**Maximum Number of Credit Hours: 9**

**Grading Mode: S/U**

**Instruction Type: Laboratory**

**4. Create the following course:****BCHM 4700 ADVANCED TOPICS IN BIOCHEMISTRY 2-0-2**

**Prerequisites: CHEM 3801 and instructor/Department Head permission**

**Topics include advanced areas of study in biological chemistry and may include biocatalysis, bioinorganic chemistry, computational biochemistry, protein structure and design as well as others. Course may be repeated as topics vary.**

Rationale: The B.S. Biochemistry program would like to have the ability to offer advanced courses on a regular basis to supplement the core instruction give to our students. These courses would enhance the theoretical knowledge of our students and allow for faculty to teach disciplinary courses in their specialty and interest areas.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Chemistry and Physics**

**Can course be repeated for additional credit: Yes**

**Maximum Number of Credit Hours: 6**

**Grading Mode: Normal**

**Instruction Type: Lecture**

**5. Modify the following program of study:**

**Program for the Degree of Bachelor of Science in Biochemistry**

**B. Major Field Courses ..... 36 hours**

BCHM 3301 Bioanalytical Chemistry  
 BCHM 3403 Biophysical Chemistry  
 BCHM 3811 Introduction to Biochemical Techniques

Choose one of the following classes:

BCHM 3812 Advanced Biochemistry Laboratory  
**BCHM 3900 Biochemical Research (1 credit hour)**  
**BCHM 4991 Advanced Biochemical Research (1 credit hour)**  
 CHEM 3900 **Chemical Research** (Biochemistry approved, 1 credit hour)

BCHM 4811 Bioinstrumental Laboratory  
 CHEM 2101/2101L Organic Chemistry I with Laboratory  
 CHEM 2102/2102L Organic Chemistry II with Laboratory  
 CHEM 2300 Principles of Chemical Analysis

CHEM 3801 Biochemistry I  
 CHEM 3802 Biochemistry II  
 CHEM 4500 Chemistry Seminar or BCHM 4501 Biochemistry Seminar  
 7 hours of approved upper division chemistry **or biochemistry** courses. **No more than 3 hours total can be from CHEM 3900, CHEM 4991, BCHM 3900 and BCHM 4991.**

**Effective Term: Fall 2015**

**6. Create the following minor**

CHEM 1211 & 1212 are used by BCHM majors in core D.

**Minor in Biochemistry 17 hours**

CHEM 2101, 2101L, 2102 & 2102L (8 hours total)  
 CHEM 3801, Biochemistry I (3 hours of upper division)  
 CHEM 3802, Biochemistry II (3 hours of upper division)  
 3 additional hours of BCHM courses at the 3000 or 4000 level

Rationale: There is expressed interest in a minor in biochemistry from students. This collection of coursework would allow the student to complete a minor within the guidelines set forth by the BOR related to minors. This would place us at 17 hours (which meets the requirement) and 9 hours of upper division coursework (which meets the requirement).

**Effective Term: Fall 2015**

**Physics Curriculum Items: Proposed Health Physics Track****7. Create the following course:**

**PHYS 3601 INTRODUCTION TO RADIATION PHYSICS I 3-0-3**  
**Prerequisite: PHYS 3801K (minimum grade of C)**

**Fundamentals about atomic physics and radiation: atomic structure, the nucleus, nuclear radiation, radioactive decays and interactions of heavy charged particles with matter.**

Rationale: This course lays the foundation for the health physics track. Health physicists must have an understanding of radiation and its interactions with matter and how to detect radiation in the environment.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Chemistry and Physics**  
**Can course be repeated for additional credit: No**  
**Maximum Number of Credit Hours: 3**  
**Grading Mode: Normal**  
**Instruction Type: Lecture**  
**Equivalent Course: None**

8. **Create the following course:**  
**PHYS 3602 INTRODUCTION TO RADIATION PHYSICS II** **3-0-3**  
**Prerequisite: PHYS 3601 (minimum grade of C)**  
**Fundamentals about atomic physics and radiation: interactions of electrons with matter, interactions of photons with matter, neutrons, fission, and methods of radiation detection.**

Rationale: This course continues to lay the foundation for the health physics track. Health physicists must have an understanding of radiation and its interactions with matter and how to detect radiation in the environment.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Chemistry and Physics**  
**Can course be repeated for additional credit: No**  
**Maximum Number of Credit Hours: 3**  
**Grading Mode: Normal**  
**Instruction Type: Lecture**

9. **Create the following course:**  
**PHYS 3403 Biophysics** **3-0-3**  
**Prerequisite: PHYS 3801K (minimum grade of C)**  
**A survey of physics applications to biology, including the thermodynamics of life, forces affecting conformation in biological molecules, physics of membranes, and spectroscopy.**

Rationale: The study of the intersection of physics and biology will give the health physics track major a deeper understanding of biological systems as they relate to physics. This course will be cross-listed by CHEM program as being equivalent to BCHM 3403.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Chemistry and Physics**  
**Can course be repeated for additional credit: No**  
**Maximum Number of Credit Hours: 3**  
**Grading Mode: Normal**  
**Instruction Type: Lecture**  
**Equivalent Course: BCHM 3403**

**10. Create the following course:**

**PHYS 3650 RADIATION EXPOSURE IN THE WORKPLACE AND IN THE ENVIRONMENT** **3-0-3**

**Prerequisite: PHYS 3801K (minimum grade of C)**

**A survey of how radiation is used in a variety of contexts, how it is detected and measured (i.e. dosimetry and radiation detectors), and the effect on people and the environment.**

Rationale: Health physicists must have knowledge of how radiation is used for the benefit of people in various sectors of society.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Chemistry and Physics**  
**Can course be repeated for additional credit: No**  
**Maximum Number of Credit Hours: 3**  
**Grading Mode: Normal**  
**Instruction Type: Lecture**  
**Equivalent Course: None**

**11. Create the following course:**

**PHYS 3660 MEDICAL IMAGING** **3-0-3**

**Prerequisite: PHYS 3801K (minimum grade of C)**

**A survey of how electromagnetic and nuclear radiation is used in a variety of medical imaging techniques (such as CT, MRI, and PET).**

Rationale: Health physicists must have knowledge of medical imaging techniques.

**Effective Term: Fall 2015**

**CURCAT:**

**Major Department: Chemistry and Physics**  
**Can course be repeated for additional credit: No**  
**Maximum Number of Credit Hours: 3**  
**Grading Mode: Normal**  
**Instruction Type: Lecture**  
**Equivalent Course: None**

**12. Create the following track for the program of study for the B.S. of Science in Applied Physics:**

**Track III: Health Physics****A. General Requirements**

**Core Areas A, B, C, D.IIA, and E .....42 hours**

Applied physics majors are required to take MATH 1113 in core area A and MATH 1161 in core area D

**Area F .....18 hours**

PHYS 2211K, 2212K Principles of Physics I, II (unless taken to satisfy core area D, in which case replace with BIOL 1107, 1107L and 1108)

MATH 2160 or STAT 3231

MATH 2072 Calculus II

CSCI 1301 Introduction to Programming Principles or ENGR 1371 Computing for Engineers

**Physical Education .....3 hours**

**First-Year Seminar ..... 1 hour**

**B. Major Field Courses .....30 hours**

PHYS 3100 Electrical Circuit Analysis or ENGR 3100 Circuit Analysis

PHYS 3801K Modern Physics

PHYS 3802 Introduction to Quantum Mechanics

PHYS 3403 Biophysics

PHYS 3601 Introduction to Radiation Physics I

PHYS 3602 Introduction to Radiation Physics II

PHYS 3650 Radiation Exposure in the Workplace and Environment

PHYS 3660 Medical Imaging

Choose three semester hours from:

PHYS 2900 Introduction to Research in Physics

PHYS 3220 Mechanics of Deformable Bodies

PHYS 3230 Fluid Mechanics

PHYS 3312 Electromagnetism

PHYS 3400 Chemical Thermodynamics

PHYS 3500 Diffraction and Crystallography

PHYS 4991 Advanced Research in Physics

Choose three semester hours from:

PHYS 4900 Independent Study in Physics

PHYS 4950 Special Topics in Physics

PHYS 4960 Physics Internship

**C. Related Field Courses .....23 hours**

CHEM 1211 Principles of Chemistry I (and lab) (unless taken to satisfy core area D, in which case replace with BIOL 1107 and 1107L)

CHEM 1212 Principles of Chemistry II (and lab) (unless taken to satisfy core area D, in which case replace with BIOL 1107 and 1107L)

MATH 3411 Differential Equations

Twelve semester hours of related field electives approved by the physics faculty.

**D. Electives .....7 hours**

Upper-division courses (6 semester hours)

Free elective (1 semester hour)

**Total Semester Hours**

**124 hours**

**E. Exit Exam**

Rationale: As a result of program review the physics program has concluded that the program should seek to become more attractive than just being able to offer the traditional applied physics major. We see this as an opportunity to offer a specialized track in Health Physics.

The Health Physics Track would teach graduates the skills needed to either enter graduate school in programs such as a biophysics or to pursue a career in policy design/decisions at laboratories and health facilities. This would require the creation of five new physics courses. However, one of these courses would be cross-listed with a pre-existing BCHM course as equivalent to the course in the physics major field of study. This is being done by agreement with the BCHM program.

**Effective Term: Fall 2015**

C. Computer Science and Information Technology (no items)

D. Engineering Studies (no items)

**E. Mathematics**

*Items 1-4 from the Department of Mathematics were discussed and approved by the committee. They are being submitted to the Faculty Senate for approval.*

1. Modify the following course:

**MATH 1001 QUANTITATIVE SKILLS AND REASONING**

**3-0-3**

~~Prerequisite: regular admission to the university or a passing grade on COMPASS.~~

Prerequisite: Math Placement Index (MPI) of 1165 or higher

Corequisite: MATH 0997 for MPI of 1075 or higher and less than 1165

Rationale: These prerequisite and name changes are being made for all University System of Georgia institutions offering MATH 1001 and its corequisite remedial course, MATH 0997.

**Effective Term: Fall 2015**

2. Modify the following course:  
**MATH 1111 COLLEGE ALGEBRA** **3-0-3**  
~~Prerequisite: regular admission to the university or a passing grade on COMPASS~~  
 Prerequisite: Math Placement Index (MPI) of 1265 or higher  
 Corequisite: MATH 0999 for MPI of 1100 or higher and less than 1265

Rationale: These prerequisite changes are being made for all University System of Georgia institutions offering MATH 1111 and its corequisite remedial course, MATH 0999.

**Effective Term: Fall 2015**

3. Modify the following course:  
**MATH 1113 PRE-CALCULUS MATHEMATICS** **3-0-3**  
~~Prerequisite: MATH 1111 (minimum grade of C) or a score of at least 550 on the mathematics portion of the SAT or a score of at least 21 on the mathematics portion of the ACT~~ 1500 or higher on the Math Placement Index (MPI)

Rationale: These prerequisite changes incorporate the use of the University System of Georgia's Math Placement Index.

**Effective Term: Fall 2015**

4. Modify the following course:  
**MATH 1161 CALCULUS I** **4-0-4**  
~~Prerequisite: MATH 1113 (minimum grade of C) or a score of at least 600 on the mathematics portion of the SAT or a score of at least 24 on the mathematics portion of the ACT~~ 1600 or higher on the Math Placement Index (MPI)

Rationale: These prerequisite changes incorporate the use of the University System of Georgia's Math Placement Index.

**Effective Term: Fall 2015**

F. Psychology (no items)

## OTHER BUSINESS



- A. The Department of Adolescent and Adult Education is now the Department of Secondary, Adult, and Physical Education**, effective January 1, 2015.
- B. CRJU 1200** Introduction to Cyber Crime, created at the meeting of 11/5/2014, was assigned a number that had previously been used. It **has been changed to CRJU 1210** Introduction to Cyber Crime.

**ADJOURNMENT.** The meeting was adjourned at 3:32 p.m.

Respectfully submitted,

Phyllis L. Fulton  
Catalog Editor and Secretary to the Committee