Undergraduate Curriculum Committee
Western Kentucky University

Report to the University Senate:

Date: 09/22/2011
From: **John White, Chair**

The Undergraduate Curriculum Committee submits the following items from the 22nd of September, 2011 meeting for approval by the University Senate:

Information Item Report:

I. Delete a Course
CE 244, Engineering Statics
CE 366, Mechanical and Electrical Systems
CE 466, Contracts and Specifications
GEOG 197, Human Geography Recitation Laboratory

III. Revise Course Prerequisites/Corequisites
GEOG 391, Data Analysis and Interpretation

Consent Item Report:
IV. Revise a Program
329, Minor in Biophysics
677, Geology: Professional Major
577, Geology: Professional Extended Major
674, Geography
576, Major in Geographic Information Science
583, Bachelor of Arts in Music

V. Create a New Course
PHYS 379, Nanotechnology in Biophysics and Medicine
HCA 459, Global Health Service-Learning Practicum

Proposal Date: 5/5/2011

Ogden College of Science and Engineering
Department of Engineering
Proposal to Delete a Course
(Consent Item)

Contact Person: Shane Palmquist, shane.palmquist@wku.edu, 745-2919

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 244
1.2 Course title: Engineering Statics
1.3 Credit hours: 3

2. Rationale for the course deletion:

This course has not been offered in many years. Civil engineering students take EM 221 (UK Statics) or EM 222 (WKU Statics) instead.

3. Effect of course deletion on programs or other departments, if known: None

4. Proposed term for implementation: Fall 2012

5. Dates of prior committee approvals:

Department of Engineering: 5/11/11

Ogden Curriculum Committee 9/1/11

Undergraduate Curriculum Committee _____

University Senate _____

Attachment: Course Inventory Form

Proposal Date: 5/5/2011

Ogden College of Science and Engineering
Department of Engineering
Proposal to Delete a Course
(Consent Item)

Contact Person: Shane Palmquist, shane.palmquist@wku.edu, 745-2919

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 366
1.2 Course title: Mechanical and Electrical Systems
1.3 Credit hours: 3

2. Rationale for the course deletion:

This course has not been offered in many years, and there are no plans to offer this course in the future.

3. Effect of course deletion on programs or other departments, if known: None

4. Proposed term for implementation: Fall 2012

5. Dates of prior committee approvals:

Department of Engineering: 5/11/11

Ogden Curriculum Committee 9/1/11

Undergraduate Curriculum Committee _____

University Senate _____

Attachment: Course Inventory Form

Proposal Date: 5/5/2011

Ogden College of Science and Engineering
Department of Engineering
Proposal to Delete a Course
(Consent Item)

Contact Person: Shane Palmquist, shane.palmquist@wku.edu, 745-2919

1. Identification of course:

1.1 Current course prefix (subject area) and number: CE 466
1.2 Course title: Contracts and Specifications
1.3 Credit hours: 3

2. Rationale for the course deletion:

This course has not been offered in many years, and there are no plans to offer this course in the future.

3. Effect of course deletion on programs or other departments, if known: None

4. Proposed term for implementation: Fall 2012

5. Dates of prior committee approvals:

Department of Engineering: 5/11/11

Ogden Curriculum Committee 9/1/11

Undergraduate Curriculum Committee _____

University Senate _____

Attachment: Course Inventory Form

Proposal Date: August 18, 2011

Ogden College
Department of Geography and Geology
Proposal to Delete a Course
(Consent Item)

Contact Person: Katie Algeo, Katie.algeo@wku.edu, 745-5922

1. Identification of course:

1.1 Current course prefix (subject area) and number: GEOG 197
1.2 Course title: Human Geography Recitation Laboratory
1.3 Credit hours: 1

2. Rationale for the course deletion: This course was linked to GEOG 101, Introduction to Cultural Geography, which has been deleted. Accordingly, there is no need for this course to remain in the inventory.

3. Effect of course deletion on programs or other departments, if known: No known effects.

4. Proposed term for implementation: Fall 2012

5. Dates of prior committee approvals:

Geography and Geology Department	8/18/2011
Ogden Curriculum Committee	9/1/2011
Undergraduate Curriculum Committee	
University Senate	

Attachment: Course Inventory Form

Proposal Date: 8/18/2011

Ogden College of Science and Engineering
Department of Geography and Geology
Proposal to Revise Course Prerequisites
(Consent Item)

Contact Person: David Keeling, david.keeling@wku.edu, 5-4555

1. Identification of course:

1.1 Course prefix (subject area) and number: GEOG 391
1.2 Course title: Data Analysis and Interpretation
1.3 Credit hours: 3

2. Current prerequisites: GEOG 100, GEOG 110, and MATH 116 or higher

3. Proposed prerequisites: GEOG 100 or GEOL 102, GEOG 110, MATH 116 or higher, and MATH 183 (Statistics), or permission of the instructor.

4. Rationale for the revision of prerequisites:

- **GEOL 102 (Intro Geology) is an introductory earth science course accepted as a substitute for GEOG 100 (Physical Geography) in all of the department's programs.**
- **MATH 183 provides an introduction to descriptive statistics and elementary probability theory, which would enable GEOG 391 instructors to focus more attention on spatial statistics and the more advanced qualities of inferential statistics.**

5. Effect on completion of major/minor sequence: None

6. Proposed term for implementation: Fall 2012

7. Dates of prior committee approvals:

Department of Geography and Geology: 8/18/2011

Ogden College Curriculum Committee 9/1/2011

Undergraduate Curriculum Committee _____

University Senate _____

Attachment: Course Inventory Form

Proposal Date: March 16, 2011

Ogden College of Science and Engineering
Department of Physics and Astronomy
Proposal to Revise a Minor
(Action Item)

Contact Person: Wieb van der Meer, Wieb van der Meer@wku.edu, 745-4357

1. Identification of program:

1.1 Current program reference number: 329
1.2 Current program title: Minor in Biophysics
1.3 Credit hours: 18

2. Identification of the proposed program changes:

- Add two courses to the electives
  - PHYS 359 Clinical Optics
  - PHYS 379 Nanotechnology in Biophysics and Medicine

3. Detailed program description:

<table>
<tr><td>Current Program</td><td>Proposed Program
(changes are indicated in boldface)</td></tr>
<tr><td>Biophysics Core</td><td>Biophysics Core</td></tr>
<tr><td>
Hrs Course Title of Course
Core: 3/1 PHYS 231/232 Introduction to Physics and Biophysics I and Lab I
3/1 PHYS 332/233 Introduction to Physics and Biophysics II and Lab II
4 PHYS 335 General Biophysics
OR
4 PHYS 337 Medical Imaging
OR
2/2 PHYS 431 Radiation Biophysics
12 hrs

Electives: 6 PHYS/ASTR Upper Division Electives
Total 18 hrs
</td><td>
Hrs Course Title of Course
Core: 3/1 PHYS 231/232 Introduction to Physics and Biophysics I and Lab I
3/1 PHYS 332/233 Introduction to Physics and Biophysics II and Lab II
4 PHYS 335 General Biophysics
OR
4 PHYS 337 Medical Imaging
OR
2/2 PHYS 431 Radiation Biophysics
OR
4 PHYS 359 Clinical Optics
OR
4 PHYS 379 Nanotech in Biop & Med
12 hrs

Electives: 6 PHYS/ASTR Upper Division Electives
Total 18 hrs
</td></tr>
<tr><td>Biophysics Electives</td><td>Biophysics Electives</td></tr>
<tr><td>The minor in biophysics requires a minimum of 18 semester hours. This course sequence is interned to serve students of the life sciences, that is, students of biology, pre-medicine and pre-dental, agriculture, environmental health, psychology, science teaching, environmental engineering, pre-veterinary, pre-pharmacy and pre-optometry. In general this curriculum treats the physics of life processes and various applications of</td><td>The minor in biophysics requires a minimum of 18 semester hours. This course sequence is interned to serve students of the life sciences, that is, students of biology, pre-medicine and pre-dental, agriculture, environmental health, psychology, science teaching, environmental engineering, pre-veterinary, pre-pharmacy and pre-optometry. In general this curriculum treats the physics of life processes and various applications of</td></tr>
</table>

physics to biology and medicine. (See the Biophysics section in this catalog)	physics to biology and medicine. (See the Biophysics section in this catalog)
Support Courses for Minor:	Support Courses for Minor:

4. Rationale for the proposed program change:

The two new courses, PHYS 359 Clinical Optics and PHY 379 Bionanotechnology, have been added to the physics curriculum to cover the expanding biophysics area and match the training area of our new faculty. The clinical optics course adds a detailed analysis of the optical properties of the eye, optical changes due to physical defects, and adaptive optical elements to improve vision to the minor. It is especially appropriate for the biophysics or the pre-optometry student. The bionanotechnology course develops the new application and interface region of molecular size device development applied to biological systems used in drug delivery and novel biosensors for nanogram detection. This course is ideal for the biophysics, pre-health science or physics students. These courses may be used as possible elective courses for the minor.

5. Proposed term for implementation and special provisions (if applicable):

Fall 2012

6. Dates of prior committee approvals:

Department of Physics and Astronomy:	April 27, 2011_____
OCSE Curriculum Committee	May 5, 2011_____
University Curriculum Committee	09/22/2011
University Senate	_____

Attachment: Program Inventory Form

Proposal Date: August 18, 2011

Ogden College of Science and Engineering
Department of Geography and Geology
Proposal to Revise a Program
(Action Item)

Contact Person: Michael May (Michael.may@wku.edu) 5-6891

1. Identification of program:

1.1 Current program reference number: 677
1.2 Current program title: Geology: Professional Major
1.3 Credit hours: 40

2. Identification of the proposed program changes:

- Change physics requirement from PHYS 250/251 to PHYS 180/181.
- Remove CS146 from the program.
- Reflect new credit hours for MATH 136.

3. Detailed program description:

Courses	Hours	Courses	Hours
Core Required Courses	20	Core Required Courses	20
GEOL 111 The Earth	3	GEOL 111 The Earth	3
GEOL 112 Earth History	3	GEOL 112 Earth History	3
GEOL 113 The Earth Lab	1	GEOL 113 The Earth Lab	1
GEOL 114 Earth History Lab	1	GEOL 114 Earth History Lab	1
GEOL 308 Structural Geology	4	GEOL 308 Structural Geology	4
GEOL 380 Intro. Field Techniques	3	GEOL 380 Intro. Field Techniques	3
GEOL 460 Sed. / Strat.	3	GEOL 460 Sed. / Strat.	3
GEOL 499 Professional Prep.	2	GEOL 499 Professional Prep.	2
Additional Required Courses	20	Additional Required Courses	20
GEOL 270 Analytical Techniques	3	GEOL 270 Analytical Techniques	3
GEOL 330 Mineralogy	4	GEOL 330 Mineralogy	4
GEOL 350 Petrology	4	GEOL 350 Petrology	4
Approve Geology Electives	9	Approve Geology Electives	9
Program Hours	40	Program Hours	40
Other Requirements	6	Other Requirements	6
Geology Field Camp	6	An approved Geology Field Camp	6

		(which can count as GEOL electives)	
or		Or	
GIS Certificate	6	Completion of the GIS Certificate	
		(requires 6 additional hours)	
Requirements outside Geology	31.5	**Requirements outside Geology**	**28**
MATH 136 Calculus I	4.5	**MATH 136 Calculus I**	**4**
BIOL 122 Biological Concepts	3	BIOL 122 Biological Concepts	3
BIOL 123 Biological Concepts Lab	1	BIOL 123 Biological Concepts Lab	1
CHEM 120 College Chemistry I	4	CHEM 120 College Chemistry I	4
CHEM 121 College Chemistry I Lab	1	CHEM 121 College Chemistry I Lab	1
~~**PHYS 250 Intro. Mech.**~~	3	**PHYS 180 Intro. Physics**	**3**
~~**PHYS 251 Intro. Mech. Lab**~~	1	**PHYS 181 Intro. Phys. Lab**	**1**
CS 146 Intro. to Programming	3		
GEOG 316 Fundamentals of GIS	4	GEOG 316 Fundamentals of GIS	4
GEOG 317 GIS	4	GEOG 317 GIS	4
GEOG 391 Data Analysis	3	GEOG 391 Data Analysis	3

4. Rationale for the proposed program change:

- Physics 250/251 has a new co-requisite of Math 227, which is higher than our program requires. University Physics I (PHYS 255) has a Math co-requisite that is higher than our program requires. Physics 180/181 was recommended as a substitute by the Dept. of Physics.
- The Computer Science course *Introduction to Programming* (CS146) no longer meets the computing needs of the Geology program.
- MATH 136 credit hours are reduced from 4.5 to 4 hours.

5. Proposed term for implementation: Fall 2012

6. Dates of prior committee approvals:

Department of Geography and Geology ____8/18/2011_____

Ogden College Curriculum Committee ____9/1/2011_____

Undergraduate Curriculum Committee ____9/22/201_____

University Senate _____

Attachment: Program Inventory Form

Proposal Date: 8/18/2011

Ogden College of Science and Engineering
Department of Geography and Geology
Proposal to Revise a Program
(Action Item)

Contact Person: Michael May (Michael.may@wku.edu) 5-6891

1. Identification of program:

1.1 Current program reference number: 577
1.2 Current program title: Geology: Professional Extended Major
1.3 Credit hours: 52

2. Identification of the proposed program changes:

- Change physics requirement from PHYS 250/251 to PHYS 180/181.
- Remove CS146 from the program.
- Reflect change in credit hours for MATH 136.

3. Detailed program description:

Courses	Hours	Courses	Hours
Core Required Courses	20	Core Required Courses	20
GEOL 111 The Earth	3	GEOL 111 The Earth	3
GEOL 112 Earth History	3	GEOL 112 Earth History	3
GEOL 113 The Earth Lab	1	GEOL 113 The Earth Lab	1
GEOL 114 Earth History Lab	1	GEOL 114 Earth History Lab	1
GEOL 308 Structural Geology	4	GEOL 308 Structural Geology	4
GEOL 380 Intro. Field Techniques	3	GEOL 380 Intro. Field Techniques	3
GEOL 460 Sed. / Strat.	3	GEOL 460 Sed. / Strat.	3
GEOL 499 Professional Prep.	2	GEOL 499 Professional Prep.	2
Additional Required Courses	32	Additional Required Courses	32
GEOL 270 Analytical Techniques	3	GEOL 270 Analytical Techniques	3
GEOL /GEOG 310 Global Hydrology	3	GEOL /GEOG 310 Global Hydrology	3
GEOL 330 Mineralogy	4	GEOL 330 Mineralogy	4
GEOL 350 Petrology	4	GEOL 350 Petrology	4
GEOL 415 Environmental Geol.	3	GEOL 415 Environmental Geol.	3
GEOL 485 Fossil Fuels	3	GEOL 485 Fossil Fuels	3
Approve Geology Electives	12	Approve Geology Electives	12
Program Hours	52	Program Hours	52

Other Requirements	6	Other Requirements	6
Geology Field Camp	6	Geology Field Camp	6
		(which can count as GEOL electives)	
or		or	
GIS Certificate	6	Completion of the GIS Certificate	
		(requires 6 additional hours)	
Requirements outside Geology	31.5	**Requirements outside Geology**	**28**
MATH 136 Calculus I	4.5	**MATH 136 Calculus I**	**4**
BIOL 122 Biological Concepts	3	BIOL 122 Biological Concepts	3
BIOL 123 Biological Concepts Lab	1	BIOL 123 Biological Concepts Lab	1
CHEM 120 College Chemistry I	4	CHEM 120 College Chemistry I	4
CHEM 121 College Chemistry I Lab	1	CHEM 121 College Chemistry I Lab	1
~~**PHYS 250 Introductory Mech.**~~	**3**	**PHYS 180 Intro. Modern Physics**	**3**
~~**PHYS 251 Introductory Mech. Lab**~~	**1**	**PHYS 181 Intro. Modern Physics Lab**	**1**
CS 146 Intro. to Programming	3		
GEOG 316 Fundamentals of GIS	4	GEOG 316 Fundamentals of GIS	4
GEOG 317 GIS	4	GEOG 317 GIS	4
GEOG 391 Data Analysis	3	GEOG 391 Data Analysis	3

4. Rationale for the proposed program change:

- Physics 250/251 has a new co-requisite of Math 227 which is higher than our program requires. University Physics I (PHYS 255) also has a Math co-requisite that is higher than our program requires. Physics 180/181 was recommended as a substitute by the Dept. of Physics.
- The Computer Science course *Introduction to Programming* (CS146) no longer meets the computing needs of the Geology program.
- MATH 136 credit hours are reduced from 4.5 to 4 hours.

5. Proposed term for implementation: Fall 2012

6. Dates of prior committee approvals:

Department of Geography and Geology ____8/18/211_____

Ogden College Curriculum Committee ____9/1/2011_____

Undergraduate Curriculum Committee ___9/22/2011_____

University Senate _____

Attachment: Program Inventory Form

Proposal Date: August 18, 2011

Ogden College of Science and Engineering
Department of Geography and Geology
Proposal to Revise a Program
(Action Item)

Contact Person: David Keeling, david.keeling@wku.edu, 5-4555

1. Identification of program:

1.1 Current program reference number: 674
1.2 Current program title: Geography
1.3 Credit hours: 36

2. Identification of the proposed program changes:

- Add MATH 183 (Statistics) to the list of additional required courses for the Karst Geoscience option.
- Replace MATH 117 (Trig) as an additional required course with MATH 183 in the other options.
- Delete MATH 118 (Alg/Trig) as an additional required course in the other options.

Option	Math course listed in tables
Karst Geoscience	Math 136 and 183
Cultural	Math 116 and 183
Land, Weather and Climate	Math 116 and 183
Environmental Planning	Math 116 and 183
Planning and GIS	Math 116 and 183
Honors	Math 116 and 183

3. Detailed program description:

Karst Geoscience	Karst Geoscience
■ Foundation Requirements 13 hours	■ Foundation Requirements 13 hours
GEOG 100 or GEOL 102	GEOG 100 or GEOL 102
or GEOL 111 Physical Geo. (3)	or GEOL 111 Physical Geo. (3)
GEOG 110 World Regional Geog. (3)	GEOG 110 World Regional Geog. (3)
GEOG 280 Environmental Science (3)	GEOG 280 Environmental Science (3)
GEOG 475 Mammoth Cave Karst (3)	GEOG 475 Mammoth Cave Karst (3)
(Summer Field Course)	(Summer Field Course)
GEOG 499 Professional Development (1)	GEOG 499 Professional Development (1)
■ Thematic Requirements 9-10 hours	■ Thematic Requirements 9-10 hours
GEOG or GEOL 310 Hydrology (3)	GEOG or GEOL 310 Hydrology (3)
OR	OR
GEOG 459 Physical Hydrology (3)	GEOG 459 Physical Hydrology (3)
GEOG 461 Karst Environments (3)	GEOG 461 Karst Environments (3)
GEOG 420 Geomorphology (4)	GEOG 420 Geomorphology (4)

OR GEOG 475 Mammoth Cave Karst (3) (Summer Field Course) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ Approved Electives 3-4 hours GEOG 208 Floods and Droughts (1) GEOG 209 Natural Disasters (1) GEOG 317 GIS (4) GEOG 414 Remote Sensing (4) GEOG 417 GIS Analysis (3) GEOG 419 GIS Applications (3) GEOG 444 Environmental Ethics (3) GEOG 452 Field Methods (3) GEOG 455 Global Env. Change (3) GEOG 471 Resource Management (3) GEOG 474 Env. Planning (3) GEOG 487 Env. Law & Policy (3) GEOL 415 Env. Geology (3) GEOL 445 Aqueous Geochemistry (3) Program Total 36 hours Additional requirements: MATH 136, CHEM 120, and BIOL 120 OR PHYS 201	OR GEOG 475 Mammoth Cave Karst (3) (Summer Field Course) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ Approved Electives 3-4 hours GEOG 208 Floods and Droughts (1) GEOG 209 Natural Disasters (1) GEOG 317 GIS (4) GEOG 414 Remote Sensing (4) GEOG 417 GIS Analysis (3) GEOG 419 GIS Applications (3) GEOG 444 Environmental Ethics (3) GEOG 452 Field Methods (3) GEOG 455 Global Env. Change (3) GEOG 471 Resource Management (3) GEOG 474 Env. Planning (3) GEOG 487 Env. Law (3) GEOL 415 Env. Geology (3) GEOL 445 Aqueous Geochemistry (3) Program Total 36 hours Additional requirements: MATH 136, **MATH 183**, CHEM 120, and BIOL 120 OR PHYS 201
Cultural Geography ■ Foundation Requirements 14 hours GEOG 100 or GEOL 102 Physical (3) GEOG 110 World Regional Geog. (3) GEOG 330 Intro to Cultural (3) GEOG 430 Topics in Cultural (3) GEOG 475 or 495 Practicum or Research (1) GEOG 499 Professional Development (1) ■ Regional Requirements 6 hours Choose two courses from: GEOG 200 Latin America (3) GEOG 360 North America (3) GEOG 451 Kentucky (3) GEOG 454 Middle America (3) GEOG 462 South America (3) GEOG 464 Europe (3) GEOG 465 Asia (3)	Cultural Geography ■ Foundation Requirements 14 hours GEOG 100 or GEOL 102 Physical (3) GEOG 110 World Regional Geog. (3) GEOG 330 Intro to Cultural (3) GEOG 430 Topics in Cultural (3) GEOG 475 or 495 Practicum or Research (1) GEOG 499 Professional Development (1) ■ Regional Requirements 6 hours Choose two courses from: GEOG 200 Latin America (3) GEOG 360 North America (3) GEOG 451 Kentucky (3) GEOG 454 Middle America (3) GEOG 462 South America (3) GEOG 464 Europe (3) GEOG 465 Asia (3)

GEOG 466 Africa (3) GEOG 467 Middle East (3) ■ Thematic Requirements 6 hours Choose two courses from: GEOG 350 Economic (3) GEOG 378 Food & Culture (3) GEOG 480 Urban (3) GEOG 481 Tourism (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) Program Total 36 hours Additional requirement: MATH 118 (or MATH 116 and MATH 117)	GEOG 466 Africa (3) GEOG 467 Middle East (3) ■ Thematic Requirements 6 hours Choose two courses from: GEOG 350 Economic (3) GEOG 378 Food & Culture (3) GEOG 480 Urban (3) GEOG 481 Tourism (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) Program Total 36 hours • **Additional requirements: MATH 116 (Algebra) and MATH 183 (Statistics)**
Environmental Planning and Resource Management ■ Foundation Requirements 13 hours GEOG 100 or GEOL 102 Physical (3) GEOG 110 World Regional Geog. (3) GEOG 280 Environment (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1) ■ Thematic Requirements 9 hours GEOG 328 Biogeography (3) GEOG 471 Natural Resources (3) GEOG 474 Env. Planning (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ General Electives 4 hours GEOG 208, 209, 310, 317, 350, 380, 414, 417, 419, 444, 452, 455, 459,461, 487, GEOL 415 Program Total 36 hours Additional requirements: MATH 118 (or MATH 116 and MATH 117) and one Ethics course: PHIL 320 or GEOG 444	Environmental Planning and Resource Management ■ Foundation Requirements 13 hours GEOG 100 or GEOL 102 Physical (3) GEOG 110 World Regional Geog. (3) GEOG 280 Environment (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1) ■ Thematic Requirements 9 hours GEOG 328 Biogeography (3) GEOG 471 Natural Resources (3) GEOG 474 Env. Planning (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ General Electives 4 hours GEOG 208, 209, 310, 317, 350, 380, 414, 417, 419, 444, 452, 455, 459, 461, 487, GEOL 415 Program Total 36 hours Additional requirements: **MATH 116 and MATH 183**, and one Ethics course: PHIL 320 or GEOG 444
Land, Weather, and Climate ■ Foundation Requirements 13 hours GEOG 100 or GEOL 102 or GEOL 111 Physical/Earth (3) GEOG 110 World Regional Geog. (3)	Land, Weather, and Climate ■ Foundation Requirements 13 hours GEOG 100 or GEOL 102 or GEOL 111 Physical/Earth (3) GEOG 110 World Regional Geog. (3)

GEOG 121 Meteorology (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1) ■ Thematic Requirements 7 hours GEOG 322 Global Climate Systems (4) GEOG 424 or 426Weather (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ General Electives 6 hours GEOG 122, 222, 310, 325, 328, 414, 420, 424 or 426, 482, 455, 459, 461, 471, GEOL 311, 325 Program Total 36 hours Additional Requirements: MATH 118 (or 116/117), PHY 201	GEOG 121 Meteorology (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1) ■ Thematic Requirements 7 hours GEOG 322 Global Climate Systems (4) GEOG 424 or 426Weather (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ General Electives 6 hours GEOG 122, 222, 310, 325, 328, 414, 420, 424 or 426, 482, 455, 459, 461, 471, GEOL 311, 325 Program Total 36 hours Additional Requirements: **MATH 116, MATH 183,** and PHY 201
Planning and GIS ■ Foundation Requirements 13 hours GEOG 100 or GEOL 102 Physical (3) GEOG 110 World Regional Geog. (3) GEOG 240 Planning (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1) ■ Thematic Requirements 10 hours GEOG 317 GIS (4) GEOG 474 Env. Planning (3) GEOG 484 Advanced Plan (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ General Electives 3 hours GEOG 350, 360, 414, 416, 417, 419, 423, 451, 477, 480, 487, 488, 497 Program Total 36 hours Additional Requirements: MATH 118 (or MATH 116 and 117) AMS 163, CIS/CS 226 or CS 230	Planning and GIS ■ Foundation Requirements 13 hours GEOG 100 or GEOL 102 Physical (3) GEOG 110 World Regional Geog. (3) GEOG 240 Planning (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1) ■ Thematic Requirements 10 hours GEOG 317 GIS (4) GEOG 474 Env. Planning (3) GEOG 484 Advanced Plan (3) ■ Technique Requirements 10 hours GEOG 300 Research (3) GEOG 316 Foundations GIS (4) GEOG 391 Data Analysis (3) ■ General Electives 3 hours GEOG 350, 360, 414, 416, 417, 419, 423, 451, 477, 480, 487, 488, 497 Program Total 36 hours Additional Requirements: **MATH 116, MATH 183**, AMS 163, CIS/CS 226 or CS 230
Geography Honors • Program Requirements 30 hours GEOG 100 (Honors), 110 (Honors), 300, 316, 391, HONS 300, HONS 301, HEEC courses (10 hours), 499	Geography Honors • Program Requirements 30 hours GEOG 100 (Honors), 110 (Honors), 300, 316, 391, HONS 300, HONS 301, HEEC courses (10 hours), 499

• Program Electives 6 hours HONS 403 Thesis for 6 hours, or 475 or 495 • Program Total 36 hours Additional requirements: MATH 118 (or MATH 116 and MATH 117) and one Ethics course: PHIL 320 or GEOG 444	• Program Electives 6 hours HONS 403 Thesis for 6 hours, or 475 or 495 • Program Total 36 hours Additional requirements: **MATH 116, MATH 183**, and one Ethics course: PHIL 320 or GEOG 444

4. Rationale for the proposed program changes:

- MATH 183 (Statistics) has been added as a prerequisite for GEOG 391 (Data Analysis). As a result, MATH 117 (Trig) is no longer necessary as an additional requirement for the major (except for the Karst Geoscience concentration, where it is a prerequisite for MATH 136), as MATH 183 is now required. This also eliminates the need to offer MATH 118 as an additional requirement option.

5. Proposed term for implementation and special provisions (if applicable): Fall 2012

6. Dates of prior committee approvals:

Department of Geography and Geology _____8/18/2011____

Ogden Curriculum Committee _____9/1/2011_____

Undergraduate Curriculum Committee _____9/22/2011____

University Senate _____

Attachment: Program Inventory Form

Proposal Date: August 18, 2011

Ogden College of Science and Engineering
Department of Geography and Geology
Proposal to Revise Program
(Action Item)

Contact Person: **Kevin B. Cary, M.Sc., GISP** e-mail: **kevin.cary@wku.edu** Phone: **5-2981**

1. Identification of program:

1.1 Current program reference number: **576**
1.2 Current program title: Major in Geographic Information Science
1.3 Credit hours: 58

2. Identification of the proposed program changes:

- Delete CS 145 and AMS 163 from required foundation courses
- Add GEOL 111 as a Physical course option in the Foundation courses.
- Change title of GEOG 419 to reflect current description.
- Add GEOG 423 as an acceptable substitute for GEOG 477
- Reduce number of required hours from 58 to 52.
- Delete ENG 307 and MATH 136 from required supporting courses.
- Add MATH 183 as a required supporting course.
- CS 170 changed number to CS 146 Introduction to Programming

3. Detailed program description:

Current Program	**Proposed Program**
B.Sc. Geographic Information Science	B.Sc. Geographic Information Science
The major in geographic information science (reference number 576) focuses on the concepts and principles of GISystems, along with its four components: (1) input, corrections, and collection of geospatial data; (2) storage and retrieval of geospatial data; (3) manipulation and analysis of geospatial data; and (4) maps and other forms of presentation of geospatial data. The major in geographic information science (reference number 576) requires **a minimum of 58 semester hours** of GIS courses. Foundation Courses (22 hours): GEOG 100 or GEOL 102 Physical 3	The major in geographic information science (reference number 576) focuses on the concepts and principles of GISystems, along with its four components: (1) input, corrections, and collection of geospatial data; (2) storage and retrieval of geospatial data; (3) manipulation and analysis of geospatial data; and (4) maps and other forms of presentation of geospatial data. The major in geographic information science (reference number 576) requires **a minimum of 52 semester hours** of GIS courses. **Foundation Courses (16 hours)**: GEOG 100 or GEOL 102 **or GEOL 111** Physical 3

GEOG 110 World Regional Geog. 3	GEOG 110 World Regional 3
CS 145 (Intro to Computers) 3	
AMS 163 Architectural Drafting 3	
CS 170 Intro. to Programming 3	**CS 146 Intro. to Programming** 3
GEOG 475 or 495 (Practicum and/or Internship) 6	GEOG 475 or 495 (Practicum and/or Internship) 6
GEOG 499 Prof. Development 1	GEOG 499 Prof. Development 1
Technique Requirements (14 hours):	Technique Requirements (14 hours):
GEOG 300 Research Methods 3	GEOG 300 Research Methods 3
GEOG 316 Foundations of GIS 4	GEOG 316 Foundations of GIS 4
GEOG 317 GIS 4	GEOG 317 GIS 4
GEOG 391 Data Analysis 3	GEOG 391 Data Analysis 3
Professional Requirements (22 hours):	Professional Requirements (22 hours):
GEOG 414 Remote Sensing 4	GEOG 414 Remote Sensing 4
GEOG 417 GIS Analysis 3	GEOG 417 GIS Analysis 3
GEOG 418 Internet GIS 3	GEOG 418 Internet GIS 3
GEOG 419 GIS App. Dev. 3	**GEOG 419 GIS Programming 3**
GEOG 443 GIS Databases 3	GEOG 443 GIS Databases 3
GEOG 477 GIS Special Topics 3	GEOG 477 GIS Special Topics 3 **or GEOG 423 Urban GIS**
GEOG 492 Advance Spatial 3	GEOG 492 Advance Spatial 3
Required Support Courses (19.5 – 20.5) (not part of the major hours):	**Required Support Courses (16 –17)** (not part of the major hours):
CE 160/161 Surveying 4	CE 160/161 Surveying 4
CS 180 Java 3	CS 180 Computer Science I 4
ENG 307 Tech. Writing 3	
MATH 118 (or 116 + 117) Algebra and Trig. 5 - 6	MATH 118 (or 116 + 117) Algebra and Trig. 5 – 6
MATH 136 Calculus I 4.5	
	MATH 183 Intro to Statistics 3
PROGRAM TOTAL: 58 Hours	**PROGRAM TOTAL: 52 Hours**

4. Rationale for the proposed program change:

- **CS 145** (Intro. to Computing) is not necessary. This is a computer literacy course.
- **CS 146** number changed from CS 170.
- **AMS 163** (Architectural Drafting) is no longer necessary. This is a CADD-based course introducing the student to CADD software. The GIS industry has migrated largely from CAD(D) software(s), and it is rarely used in professional GIS. Therefore, architectural drafting is no longer a necessary skill for GIS majors.
- The deletion of **CS 145 and AMS 163** from the list of foundation courses **decreases** the overall number of semester hours required to complete the program from 58 to 52.

- The title of **GEOG 419** has been changed to GIS Programming.
- **GEOG 423** (Urban GIS) is added as an acceptable substitute for GEOG 477 (Special Topics), as several students pursue an interest in city and regional planning.
- **ENG 307** (Technical Writing) is no longer needed since both GEOG 417 and GEOG 300 contain writing components that address the concerns of technical writing in GIS.
- **MATH 136** (Calculus I) is not necessary. Calculus is used rarely in the GIS industry or professional GIS.
- **MATH 183** (Intro to Statistics) is added as a required supporting course, as it provides a statistical foundation for the advanced GIS courses and is a prerequisite for GEOG 391 (Data Analysis).

5. Proposed term for implementation and special provisions (if applicable):

- **Term:** Fall 2012

6. Dates of prior committee approvals:

Department of Geography and Geology	8/18/2011
Ogden College Curriculum Committee	9/1/2011
University Curriculum Committee	9/22/2011
University Senate	

Attachment: **Program Inventory Form**

Proposal Date: September 1, 2011

Potter College Arts and Letters
Department of Music
Proposal to Revise A Program
(Action Item)

Contact Person: Dr. Mitzi Groom, mitzi.groom@wku.edu, 745-3751

1. Identification of program:

1.1 Current program reference number: 583
1.2 Current program title: Bachelor of Arts in Music (Liberal Arts)
1.3 Credit hours: 51

2. Identification of the proposed program changes: Remove MUS 260 Group Piano III and MUS 261 Group Piano IV from degree requirements, reduce the electives to 5 hours, and expand the choice of courses that will fulfill electives to read "5 hours selected from Theory/Composition, History/Literature, ensembles, applied lessons, conducting, methods, or techniques." This will reduce the total program credit hours to 48.

3. Detailed program description:

#583 -- CURRENT REQUIREMENTS

MUSIC COURSES	**Hrs.**
MUS 100 Theory I	3
MUS 101 Theory II	3
MUS 200 Theory III	3
MUS 201 Theory IV	3
MUS 326 Music History I	3
MUS 327 Music History II	3
MUS 328 Music History III	3
MUS 160/349 Grp Piano I /Accomp.	1
MUS 161/349 Grp Piano II/ Accomp.	1
MUS 260/349 Grp Piano III/Accomp.	**1**
MUS 261/349 Grp Piano IV/Accomp.	**1**
MUS 317 Conducting I	2
Music Electives:	**6**
6 hours selected from theory/composition (MUS 203, 206, 405, 407, Private Composition or MUS 430)	
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 353 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 353 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
	TOTAL = 51 hrs

#583 – NEW REQUIREMENTS

MUSIC COURSES	**Hrs.**
MUS 100 Theory I	3
MUS 101 Theory II	3
MUS 200 Theory III	3
MUS 201 Theory IV	3
MUS 326 Music History I	3
MUS 327 Music History II	3
MUS 328 Music History III	3
MUS 160/349 Grp Piano I /Accomp.	1
MUS 161/349 Grp Piano II/ Accomp.	1
MUS 317 Conducting I	2
Music Electives:	**5**
5 hours selected from Theory/Composition, History/Literature, ensembles, applied lessons, conducting, methods, or techniques.	
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 153 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 353 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 353 Applied Principal	2
MUS 155 Performance Attendance (P/F	0
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
MUS 34_ Ensemble (MAJOR)	1
	TOTAL = 48 hrs

4. Rationale for the proposed program change: The Bachelor of Arts in Music (Liberal Arts) degree is a "non-professional" degree in music and standards for the degree allow considerable latitude in music electives. Currently those choices are limited to only two areas: Theory/Composition and History/Literature. Expanding the choices will allow students to pursue options in other areas of music: applied music and ensembles, conducting, and methods/techniques. Decreasing the required hours from 51 to 48 moves 3 hours of the now 120 hour degree into General Electives and allows for broader choices of individual courses, minors, or second majors.

5. Proposed term for implementation and special provisions: Fall 2012

6. Dates of prior committee approvals:

Music Department Curriculum Committee	August 17, 2011
Music Department/Division:	August 18, 2011
PCAL Curriculum Committee	September 1, 2011
Undergraduate Curriculum Committee	09/22/2011
University Senate	_____

Proposal Date: April 29, 2011

Ogden College of Science and Engineering
Department of Physics & Astronomy
Proposal to Create a New Course
(Action Item)

Contact Person: Vladimir Dobrokhotov, vladimir.dobrokhotov@wku.edu, 502-291-4151

1. Identification of proposed course:

1.1 Course prefix and number: PHYS 379
1.2 Course title: Nanotechnology in Biophysics and Medicine
1.3 Abbreviated course title: Nanotech in Biop & Med
1.4 Credit hours and contact hours: 4
1.5 Type of course: C
1.6 Prerequisites: PHYS 332, PHYS233 or PHYS 265, PHYS266
1.7 Course catalog listing: The physics of nanostructures and their bio-medical applications.

2. Rationale:

2.1 Reason for developing the proposed course: Students in several science and pre-health professional programs will benefit from a course in applied nanotechnology by obtaining the knowledge and skills necessary for work at the research, medical and industrial facilities of a new generation, i.e. applications include novel drug delivery, stronger materials, superconducting metals, and aero-gels.
2.2 Projected enrollment in the proposed course: 8-12 students per offering based on previous enrollment in university physics and biophysics courses.
2.3 Relationship of the proposed course to courses now offered by the department: The proposed course builds on basic concepts of physics discussed in PHYS 332 or PHYS 265. However, there is no overlap between the content of PHYS 379 and that of any other physics course currently offered by the department.
2.4 Relationship of the proposed course to courses offered in other departments: No course in nanotechnology is offered in any other academic unit.
2.5 Relationship of the proposed course to courses offered in other institutions: Applied bio/nanotechnology courses are not available at most universities in the United States. This course will provide WKU's science and pre-health professionals with a unique background in this area.

3. Discussion of proposed course:

3.1 Course objectives: Upon completion of this course students will know and understand the basic physical and chemical properties of nanomaterials as well as their applications in biology and medicine.
3.2 Content outline:
∗ Nanomaterials and bulk materials, concept of nanostructures
∗ Types of nanomaterials: 0-D, 1-D, 2-D, 3-D.

∗ Mechanical properties of nanostructures
∗ Electrical and thermal properties of nanostructures
∗ Optical properties of nanostructures
* Nanoscale devices and nanofabrication methods
* Biological and chemical functionalization of nanostructures, hybrid nanostructures
* Application of nanomaterials in cell biology
∗ Nanomaterials for medical diagnostics and treatment
∗ Chemical sensors and electronic nose technology
∗ Nanocomposites and reinforcement of materials

3.3 Student expectations and requirements:
Performance will be evaluated based upon exams, participation in laboratory activities, and written laboratory reports.

3.4 Nanotechnology in Biology and Medicine: Methods, Devices, and Applications, Tuan Vo-Dinh, Taylor & Francis Group LLC, 2007

4. Resources:

4.1 Library resources: See attached library resource form and bibliography.
4.2 Computer resources: No new additional resources required.

5. Budget implications:

5.1 Proposed method of staffing: Existing faculty will teach this course.
5.2 Special equipment needed: none
5.3 Expendable materials needed: none
5.4 Laboratory materials needed: none

6. Proposed term for implementation: Spring 2012

7. Dates of prior committee approvals:

Department of Physics & Astronomy:	___April 27, 2011____
OCSE Curriculum Committee	____May 5, 2011_____
Undergraduate Curriculum Committee	09/22/2011
University Senate	_____

Attachment: Bibliography, Library Resources Form, **Course Inventory Form**

Proposal Date: June 2011

College of Health & Human Services
Department of Public Health
Proposal to Create a New Course
(Action Item)

Contact Person: Dr. William Mkanta; william.mkanta@wku.edu; 270-745-5260

1. Identification of proposed course:

1.1 Course prefix and number: HCA 459
1.2 Course title: Global Health Service-Learning Practicum
1.3 Abbreviated course title: Global Health Practicum
1.4 Credit hours: 3 repeatable up to 6 credit hours
1.5 Type of course: P
1.6 Prerequisites: HCA 347 or permission of instructor
1.7 Course catalog listing: Designed to provide students in health professions with a global service-learning experience. Integrates student knowledge and skills with practical applications in a global health context, based on the student career objectives and the health needs of the served communities. Course repeatable once for a total of six hours.

2. Rationale:

2.1 Reason for developing the proposed course: Global health is an area of growing interest. For the most part, courses with global health content have been instructional. The proposed course intends to offer practical experience to the students while collaborating with health service professionals and communities in a global context. In this way, a practicum experience is expected to create an understanding of global health concerns in a better perspective. Secondly, the proposed course supports the university mission of preparing the students to become productive and responsible leaders of a global society since it provides an opportunity for students to apply their knowledge and skills in addressing real global health problems.

2.2 Projected enrollment in the proposed course: This course is required for the global health service minor; in addition, it is offered under the environment of increasing study abroad/global activities at WKU. An enrollment of 25 to 40 students per academic year is projected.

2.3 Relationship of the proposed course to courses now offered by the department: HCA 347 (International Health Care) examines and compares national healthcare systems but does not offer practical experience. HCA 449 (Internship in Healthcare Administration) and PH 490 (Internship in Public Health) are offered through engagements with relevant domestic settings. The proposed course puts emphasis on a practicum experience in a global environment.

2.4 Relationship of the proposed course to courses offered in other departments: Supervised internships/practical trainings are commonly offered as part of degree

requirements across several WKU departments with courses or programs in health related disciplines. The proposed course specifically requires students to participate in offering services pertaining to their knowledge and skills in an abroad setting, or locally but in a global context. In addition, the proposed course will be offered as one of the required courses for a minor in global health service.

2.5 Relationship of the proposed course to courses offered in other institutions: Several Kentucky colleges have courses in international health but only University of Kentucky (global health certificate) and University of Louisville (minor in international health studies) have specific global internship or field placement in health services. Neither NKU nor EKU offer practical courses in international health. Morehead State University offers one credit hour of international internship that is open to students from all fields of study when participating in study abroad programs.

3. Discussion of proposed course:

3.1 Course objectives:

- Participate in individual and group opportunities for students to apply knowledge and skills on real global health problems in both abroad and local settings;
- Develop an appreciation for diversity and understanding of similarities and differences between US and foreign cultures in values, beliefs, and need for health services;
- Gain an understanding of how national health systems and organizations work and develop global professional networks;
- Prepare for careers and develop research agenda in the global health context.

3.2 Content outline:

- Practicum overview and requirements
- Diversity and cultural awareness
- Participation at practicum location
- Practicum journal
- Field supervisor evaluation
- Agency evaluation

3.3 Student expectations and requirements: Two hundred and forty (240) contact hours in a practicum experience will constitute 3 credits. Instructor will assess students based on:

- Participation and completion of practicum hours
- Professional and teamwork skills demonstrated at the practicum site (field supervisor report)
- Keeping a practicum journal

3.4 Tentative texts and course materials: Practicum Guidelines.

4. Resources:

4.1 Library resources: Adequate

4.2 Computer resources: Adequate

5. Budget implications:

5.1 Proposed method of staffing: Present HCA faculty.
5.2 Special equipment needed: Adequate.
5.3 Expendable materials needed: Adequate.
5.4 Laboratory materials needed: Adequate

6. Proposed term for implementation: Spring 2012

7. Dates of prior committee approvals:

Department of Public Health:	June 20, 2011
CHHS Undergraduate Curriculum Committee	August 29, 2011
Undergraduate Curriculum Committee	September 22, 2011
University Senate	_____

Attachment: Bibliography, Library Resources Form, Course Inventory Form