COMMITTEE: University Curriculum Committee

MEETING DATE: October 10, 2013

PERSONS PRESIDING: Leigh Cellucci (Vice-Chair)

REGULAR MEMBERS IN ATTENDANCE: Leigh Cellucci, Michael Dingfelder, Lori Flint, Peter Francia, Mark Richardson

EX-OFFICIO MEMBERS IN ATTENDANCE: Rita Reaves, Jean-Luc Scemama, Katherine Swank, and Karen Vail-Smith

EXCUSED: Donna Kain, Annette Greer, Amy McMillan, Josie Bowman

ABSENT:

SUPPORT: Barbara Little

OTHERS IN ATTENDANCE:
College of Technology, Department of Technology Systems: David Batts, Leslie Pagliari
Thomas Harriot College of Arts and Sciences
Department of Foreign Languages and Literatures: Laura Papalas
Department of Geography, Planning, and Environment: Thomas Rickenbach, Burrell Montz
College of Nursing: Janice Neal

ACTIONS OF MEETING

Agenda Item: I. Call to Order

(1.) Minutes
The 9/26/13 UCC minutes was distributed for an electronic vote and approved by the majority of the committee.

Discussion:

NA

Action Taken:

NA

(2.) Announcements

Discussion:

NA

Action Taken:

NA

Agenda Item: II. College of Technology, Department of Technology
David Batts, Leslie Pagliari

(1.) Proposal of New Courses: ITEC 4401, 4402, 4403 (Individual Study in Industrial Technology for 1, 2, or 3 credit hours respectively); 4501, 4502, 4503 (Special Topics in Industrial Technology for 1, 2, or 3 credit hours respectively)

Discussion: Dr. Batts and Dr. Pagliari introduced the new course proposals, revisions, and removals. The committee suggested that the courses should state the maximum times each course may be repeated. Dr. Francia noted for there to be consistency in the grading scale (Item 19d) for all the courses listed, perhaps the A- in the grading scale should read from 90-92 rather than from 90-93 (since the B- is from 80-82 and the C- is 70-72). Dr. Batts and Dr. Pagliari agreed to these changes.

Action Taken: Dr. Batts and Dr. Pagliari agreed to change the first sentence of the course description (Item 6) for ITEC 4401, 4402, and 4403 to read, "ITEC 4401, 4402, and 4403 may be repeated with consent of chair for a maximum of 3 credit hours." They also agreed to change the first sentence of the course description (Item 6) for ITEC 4501, 4502, and 4503 to read, "ITEC 4501, 4502, and 4503 may be repeated for credit with consent of chair for a maximum of 3 credit hours." They also agreed to correct the grading scale (Item 19d.) for the A- grade to span 90-92 and the A to span 93-100. A motion to approve the courses as amended was made by Dr. Francia and seconded by Dr. Cellucci. The motion passed.

(2.) Prerequisite Revision of an Existing Course: ITEC 3300

Discussion: Dr. Batts explained the need to add ITEC 3000 as a prerequisite for ITEC 3300, and the committee agrees to this revision.

Action Taken: A motion to approve was raised by Dr. Francia and seconded by Dr. Cellucci; the motion was approved.

(3.) Removal of Existing Course from Undergraduate Catalog: ITEC 5100

Discussion The committee supports removing 5000-level courses from the undergraduate catalog.

Action Taken: A motion to approve was raised by Dr. Francia and seconded by Dr. Cellucci; the motion was approved.

(4.) Marked Catalog Copy

Discussion: The committee agreed that the same statement for ITEC 4401, 4402, and 4403 as listed above, "ITEC 4401, 4402, and 4403 may be repeated with consent of chair for a maximum of 3 credit hours" be included within the marked catalog copy. Likewise, the similar statement for ITEC 4501, 4502, and 4503 as listed above, "ITEC 4501, 4502, and 4503 may be repeated for credit with consent of chair for a maximum of 3 credit hours" be included within the marked catalog copy.

Action Taken: A motion to approve the marked catalog copy as amended was raised by Dr. Francia and seconded by Dr. Cellucci; the motion was approved.

Agenda Item: III. Thomas Harriot College of Arts and Sciences, Department of Foreign Languages and Literatures
Laura Papalas

(1.) Proposal of New Course: FORL 2520 (French Cinema Classics)

Discussion: Dr. Papalas introduced the new course proposal. Dr. Swank asked if the justification of the course might be strengthened if there is a link made to SACS requirements and ECU goals (in addition to the justification already made); she suggested also that that the course justification (Item 5) might clarify and align the program with assessment goals. Dr. Reaves added that the justification might also mention that the program's recent internal/external review was an impetus for the creation of this course. Dr. Swank also mentioned that in addition to Humanities Foundation credit that Dr. Papalas pursue cultural diversity credit for the course. Dr. Flint asked if the textbooks and course packet mentioned in Item 19a were required and if so the course proposal should state this. She also noted that a change is need in the grading scale (Item 19d.) for the A- grade (it should span from 900-939 rather than 900-930. Another concern is connection between the course objectives (Item 19b.) and the course's justification. Dr. Richardson commented that there is a need to update the course proposal form so there is uniformity between the stated evaluation criteria within the submitted course proposal, the Foundations credit form, and the course syllabus (for example, the course proposal mentions Quizzes worth 100 points while the course syllabus mentions weekly blogs worth 150 points and no quizzes). Dr. Flint stated that "course management system" be used to replace "Blackboard" within the discussion of course requirements (Item 19d.). Dr. Papalas agreed to make the changes recommended by the committee. The committee approved the marked catalog copy.

Action Taken: A motion to approve the new course as amended and the marked catalog copy was raised by Dr. Scemama and seconded by Dr. Flint; the motion was approved.

Agenda Item: IV. Thomas Harriot College of Arts and Sciences, Department of Geography, Planning, and Environment
Thomas Richenbach, Burrell Montz

(1.) Prerequisite Revision of Existing Courses: GEOG 3230, 4510, 4530, 4540, 4580, 4590

Discussion: Dr. Richenbach explained that since many of the Geography courses will be cross-listed with the new ATMO courses, there is a need to revise the prerequisites listed n the catalog to include the similar ATMO courses that can serve as prerequisites.

Action Taken: A motion to approve the prerequisite revisions was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(2.) Proposal of New Courses: ATMO 1300, 2510, 3230, 4510, 4530, 4540, 4580, 4590

Discussion: Dr. Richenbach explained that these new courses are like ones already offered with the GEOG prefix but will be distinguished with the new ATMO prefix as associated with the AAS major. The Dr. Scemama recommended that Foundations credit be removed from the course description (Item 6) for ATMO 1300 and that the word "describe" replace "Appreciate" within its course objectives (Item 19b). For ATMO 2510 and ATMO 3230, Dr. Scemama recommended the addition of 3 credit hours (Item 13, top box), and for ATMO 3230 to replace the word "understand" with the word "describe" in the Course objectives (Item 19b). For ATMO 4510, Dr. Scemama recommended revising the credit hours for the lecture to 3 credit hours and list 0 credit hours for the lab (Item 13). For ATMO 4530, Dr. Schemama asked if the text was required; Dr. Richenbach stated that it was required and that it would be added to Item 19a. There were no changes suggested for ATMO 4540 and ATMO 4590. For ATMO 4580, Dr. Scemama recommended that the course objectives (Item 19b.) be changed to measurable verbs and that "units" replace "weeks" within the Course topic outline (Item 19c.). Dr. Richenbach agreed to make the necessary changes.

Action Taken: A motion to approve the new courses as amended was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(3.) Prefix Revision of Existing Courses: GEOG 3520 (to ATMO 3520; GEOG 3550 (to ATMO 3520); GEOG 4520 (to ATMO 4520); GEOG 4525 (to ATMO 4525); GEOG 4550 (to ATMO 4550

Discussion: Dr. Richenbach discussed the faculty's decision to pursue the change to an ATMO course prefix to benefit the Applied Atmospheric Science majors in identifying the degree as a natural science rather than a social science. Dr. Reaves asked about the justification for moving the program identification from a social science to a natural science. Dr. Richenbach explained that the degree has requirements like a natural science (including physics and upper-level math courses), is taught by faculty with science credentials, and the

ATMO prefix will help incoming students recognize the program within the Geography department as well as for graduates entering the job market.

Action Taken: A motion to approve the prefix revisions was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(4.) Cross-listing of Existing Courses: ATMO 1300, GEOG 1300; ATMO 3230 and GEOG 3230; ATMO 3510 and GEOG 3510; ATMO 4510 and GEOG 4510; GEOG 4530 and ATMO 4530; GEOG 4540 and ATMO 4540; GEOG 4580 and ATMO 4580; GEOG 4590 and ATMO 4590

Discussion: Dr. Richenbach explained the need to cross-list with GEOG those ATMO courses that do not have a prerequisite of calculus.

Action Taken: A motion to approve the cross-listing was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(5.) Renumbering of Existing Courses: GEOG 3510 (to GEOG 2510)

Discussion: Dr. Richenbach stated the need to renumber GEOG 2510 to GEOG 3510 to signal that it is a "bridge" course between the GEOG/ATMO 1300 and the 3000-4000 level AAS courses. Dr. Scemama recommended the addition of 3 credit hours (Item 13, top box), that "units" replace "weeks" within the Course topic outline (Item 19c.).

Action Taken: A motion to approve GEOG 2510 as amended was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(6.) Banking of Existing Courses: GEOG 4560, 4570

Discussion: Dr. Montz explained that the faculty wishes to bank this course since they have not been offered for several years and they lack the faculty to teach them.

Action Taken: A motion to approve was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(7.) Revision of Existing Degrees: Applied Atmospheric Science, BS; Applied Geography, BS; Geographic Information Science and Technology, BS; Geography, BA

Discussion: Dr. Montz explained the need to revise the existing degrees listed to reflect the changes to existing courses resulting from the ATMO prefix and cross-listings.

Action Taken: A motion to approve the revision of existing degrees was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(8.) Revision of Existing Certificate: Atmospheric Science Certificate

Discussion: Dr. Montz explained the revisions of courses stated above also result in changes to the Atmospheric Science Certificate.

Action Taken: A motion to approve the revision of existing Certificate was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

(9.) Marked catalog copy

Discussion: The committee reviewed the changes made in the marked catalog copy provided.

Action Taken: A motion to approve the marked catalog copy was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

Agenda Item: V. College of Nursing
Janice Neil

(1.) Proposal of New Courses: NURS 3910, 3911, 3920, 3921, 4910, 4920, 4921, 4930

Discussion: The discussion of the new courses had been continued from the previous meeting (9/26/13). The changes recommended to the course proposals by the committee have now been made.

Action Taken: A motion to approve the new courses as amended was made by Professor Vail-Smith and seconded by Dr. Cellucci. The motion was approved.

(2.) Request to Revise the BSN

Discussion: The discussion of the request to revise the BSN had been continued from the previous meeting (9/26/13) with the committee requesting that the memorandum of request be rewritten to clarify the changes to the degree requirements and how these would be stated in the marked catalog copy. While changes had been made to the memorandum and the marked catalog copy, Professor Vail-Smith recommended and the rest of the committee concurred that the admission standards for the General BSN versus the Accelerated Second Degree BSN option need to be better clarified. Dr. Neal agreed to revise as needed after consulting with her College curriculum committee

Action Taken: Dr. Reaves recommended that Dr. Neal revised the BSN catalog description with the aid of her College curriculum committee, and thereafter seek the approval of the faculty and Dean before resubmitting the material to the UCC committee. A motion to table the discussion of the Request to Revision the BSN until our next scheduled meeting was

made by Professor Vail-Smith and seconded by Dr. Scemama. The motion to table the discussion was approved.

(3.) Request to Establish a New Pathway to the BSN

Discussion: The discussion of the request to establish the Accelerated Second Degree BSN option had been continued from the previous meeting (9/26/13) with the committee requesting that the memorandum of request be rewritten to clarify the admission standards and the degree requirements for this new pathway for students that already have an undergraduate degree and how these would be stated in the marked catalog copy. While changes had been made to the memorandum and the marked catalog copy, Professor Vail-Smith recommended and the rest of the committee concurred that the admission standards for the Accelerated Second Degree BSN option need to be better clarified. Additionally the discussion for the number of credits required in the paragraph under the heading "Program of Study" for the Accelerated Second Degree BSN Option is unclear, does not agree with the table headings or totals below it, nor do the component headings clearly distinguish which credits are allowed to be transferred from the previous degree and which must be taken at ECU. Dr. Neal agreed to revise as needed after consulting with her College curriculum committee.

Action Taken: Dr. Reaves recommended that since these curriculum changes are significant, that Dr. Neal revise the Accelerated Second Degree BSN option catalog description with the aid of her College curriculum committee, and thereafter seek the approval of the faculty and Dean before resubmitting the material to the UCC committee. A motion to table the discussion of the Request to Establish the Accelerated Second Degree BSN option until our next scheduled meeting was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion to table the discussion was approved.

Agenda Item: VI. New Business

No items for this meeting

Agenda Item: VII. Old Business

No items for this meeting

Curricular Actions Reviewed at This Meeting:

New Courses:	10
Revised/Renumbered/Unbanked Courses (includes title/prereq./prefix):	40
New Degrees/Programs:	0

New Minors	0
New Concentrations:	2
New Certificates:	0
Revised Existing Degrees/Concentrations/Departmental Text:	8
Deletion of Existing Degrees/Concentrations:	0
Revised Minors/Certificates:	1
Deletion of Existing Minors/Certificates:	0
Banked Courses:	0
Deletion of Existing /Banked Courses:	8

Curricular Actions Reviewed to Date (to include this meeting):

New Courses:	34
Revised/Renumbered/Unbanked Courses (includes title/prereq./prefix):	200
New Degrees/Programs:	0
New Minors:	0
New Concentrations:	6
New Certificates:	0
Revised Existing Degrees/Concentrations/Departmental Text	31
Deletion of Existing Degrees/Concentrations:	8
Revised Minors/Certificates:	9
Deletion of Existing Minors/Certificates:	2
Banked Courses:	4
Deletion of Existing /Banked Courses:	16

NEXT MEETING: October 24, 2013

ITEMS TO BE DISCUSSED: See agenda.

Professor Vail-Smith moved to adjourn at 5:00 pm. Motion was seconded by Dr. Scemama and approved by all. Meeting adjourned.

Respectfully Submitted by

Mark D. Richardson
Secretary of the UCC

Marked Catalog Copy

Agenda Item: II. College of Technology, Department of Technology

Marked Catalog Copy
http://catalog.ecu.edu/preview_entity.php?catoid=4&ent_oid=339&returnto=256

ITEC: Industrial Technology

ITEC 3300 - Technology Project Management

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3 WI F,S
3 lecture hours per week. P: ENGL 1200; ITEC 2000 or ITEC 3000 or MIS 2223. Systems needs analysis identification, functional requirements analysis, IT project timelines, and system development progress metrics.

ITEC 4401 - Independent Study: Industrial Technology

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1 F, S, SS
ITEC 4401, 4402, and 4403 may be repeated with consent of chair for a maximum of three semester hours. P: Consent of instructor. Independent study of an emerging technology or development in the field of industrial technology.

ITEC 4402 - Independent Study: Industrial Technology

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2 F, S, SS
ITEC 4401, 4402, and 4403 may be repeated with consent of chair for a maximum of three semester hours. P: Consent of instructor. Independent study of an emerging technology or development in the field of industrial technology.

ITEC 4403 - Independent Study: Industrial Technology

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3 F, S, SS
ITEC 4401, 4402, and 4403 may be repeated with consent of chair for a maximum of three semester hours. P: Consent of instructor. Independent study of an emerging technology or development in the field of industrial technology.

ITEC 4501 - Special Topics: Industrial Technology

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1 F, S, SS
ITEC 4501, 4502, and 4503 may be repeated with consent of chair for a maximum of three semester hours. P: Consent of instructor. Special topic of emerging concepts, processes, tools, and/or materials in the field of industrial technology.

ITEC 4502 - Special Topics: Industrial Technology

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2 F, S, SS
ITEC 4501, 4502, and 4503 may be repeated with consent of chair for a maximum of three semester hours. P: Consent of instructor. Special topic of emerging concepts, processes, tools, and/or materials in the field of industrial technology.

ITEC 4503 - Special Topics: Industrial Technology

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3 F, S, SS
ITEC 4501, 4502, and 4503 may be repeated with consent of chair for a maximum of three semester hours. P: Consent of instructor. Special topic of emerging concepts, processes, tools, and/or materials in the field of industrial technology.

~~ITEC 5100 - Internship in Industrial Technology~~

~~3~~
~~Supervised internship. P: Consent of graduate director. Placement in industrial or technical firm. Requires journal of related activities and final report.~~

Agenda Item: III. Thomas Harriot College of Arts and Sciences, Department of Foreign Languages and Literatures

http://catalog.ecu.edu/preview_entity.php?catoid=3&ent_oid=166&returnto=192

FORL: Foreign Languages

FORL 2520 - French Cinema Classics
3 FC:HU
May not count as elective toward major or minor requirements for foreign language degree programs. May not count toward foreign language requirement. Conducted in English; no knowledge of other languages required. Examination of evolution and art of French cinema, from its invention to the present.

Agenda Item: IV. Thomas Harriot College of Arts and Sciences, Department of Geography, Planning, and Environment

Source for Department of Geography, Planning, and Environment Programs & Courses:

http://catalog.ecu.edu/preview_entity.php?catoid=4&ent_oid=290&returnto=256

At the last few pages of the marked copy is found the added and modified course descriptions for the new and modified courses listed below.

Programs

Bachelor's
- Applied Atmospheric Science, BS
- Applied Geography, BS
- Geographic Information Science and Technology, BS
- Geography, BA
- Urban and Regional Planning, BS

Minor
- Geography Minor
- Planning Minor

Certificate
- Atmospheric Science Certificate
- Geographic Information Science Certificate
- Urban Design Certificate

Courses

Applied Atmospheric Science
- ATMO 1300 - Weather and Climate
- ATMO 2510 - Physical Meteorology
- ATMO 3230 - Global Climates
- ATMO 3520 - Dynamic Meteorology
- ATMO 3550 - Principles of Synoptic Meteorology
- ATMO 4510 - Meteorological Instruments and Observations
- ATMO 4520 - Boundary Layer Meteorology
- ATMO 4525 - Dynamic Meteorology II
- ATMO 4530 - Micrometeorology
- ATMO 4540 - Coastal Storms
- ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting
- ATMO 4580 - Radar and Satellite Meteorology
- ATMO 4590 - Tropical Meteorology

Geography
- GEOG 1000 - People, Places, and Environments
- GEOG 1200 - Introduction to Physical Geography
- GEOG 1250 - The Water Planet
- GEOG 1300 - Weather and Climate
- GEOG 2003 - Geography in the Global Economy

- GEOG 2019 - Geography of Recreation
- GEOG 2100 - World Geography: Developed Regions
- GEOG 2110 - World Geography: Less Developed Regions
- GEOG 2250 - Earth Surface Systems
- GEOG 2300 - Geography of Environmental Resources
- GEOG 2350 - Climate Change: Science and Society
- GEOG 2400 - Spatial Data Analysis
- GEOG 2410 - Fundamentals of GIS
- GEOG 2500 - Map and Aerial Photo Interpretation
- GEOG 2510 - Physical Meteorology
- GEOG 3001 - Historical Geography of the United States
- GEOG 3003 - Political Geography
- GEOG 3004 - Urban Geography
- GEOG 3046 - United States and Canada
- GEOG 3047 - Western Europe
- GEOG 3049 - Latin America
- GEOG 3050 - Africa
- GEOG 3051 - Asia
- GEOG 3055 - North Carolina
- GEOG 3056 - Middle America
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3230 - Global Climates
- GEOG 3250 - Environmental Hazards
- GEOG 3420 - Remote Sensing of the Environment I
- GEOG 3430 - Geographic Information Systems I
- GEOG 3450 - Introduction to the Global Positioning System
- GEOG 3460 - GIS Applications Programming
- ~~GEOG 3510 - Physical Meteorology~~
- ~~GEOG 3520 - Dynamic Meteorology~~
- ~~GEOG 3550 - Principles of Synoptic Meteorology~~
- GEOG 4140 - Research Methods in Human Geography
- GEOG 4150 - Advanced Spatial Analysis
- GEOG 4191 - Supervised Study in Regional Geography
- GEOG 4192 - Supervised Study in Regional Geography
- GEOG 4193 - Supervised Study in Regional Geography
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4270 - Water Resources Management and Planning
- GEOG 4291 - Supervised Study in Physical Geography
- GEOG 4292 - Supervised Study in Physical Geography
- GEOG 4293 - Supervised Study in Physical Geography
- GEOG 4310 - Geography of Transportation and Trade
- GEOG 4315 - Geographic Images

- GEOG 4320 - Gender, Economy, and Development
- GEOG 4325 - Resources, Population, and Development
- GEOG 4330 - Agricultural Geography
- GEOG 4335 - Geography of Tourism
- GEOG 4340 - Introduction to Medical Geography
- GEOG 4345 - Human Migration and Global Restructuring
- GEOG 4391 - Supervised Study in Human Geography
- GEOG 4392 - Supervised Study in Human Geography
- GEOG 4393 - Supervised Study in Human Geography
- GEOG 4410 - Advanced Cartographic Design and Production
- GEOG 4420 - Remote Sensing II
- GEOG 4430 - Geographic Information Systems II
- GEOG 4440 - Coastal Applications of GIS
- GEOG 4450 - GIScience, Society and Technology
- GEOG 4460 - Digital Terrain Analysis
- GEOG 4491 - Supervised Study in Geographic Techniques
- GEOG 4492 - Supervised Study in Geographic Techniques
- GEOG 4493. - Supervised Study in Geographic Techniques
- GEOG 4510 - Meteorological Instruments and Observations
- ~~GEOG 4520 - Boundary Layer Meteorology~~
- ~~GEOG 4525 - Dynamic Meteorology II~~
- GEOG 4530 - Micrometeorology
- GEOG 4540 - Coastal Storms
- ~~GEOG 4550 - Applied Synoptic Meteorology: Analyses and Forecasting~~
- ~~GEOG 4560 - Urban Climatology~~
- ~~GEOG 4570 - Hydrometeorology~~
- GEOG 4580 - Radar and Satellite Meteorology
- GEOG 4590 - Tropical Meteorology
- GEOG 4801 - Geographic Internship
- GEOG 4802 - Geographic Internship
- GEOG 4803 - Geographic Internship
- GEOG 4900 - Honors Research
- GEOG 4901 - Senior Honors Thesis
- GEOG 4999 - Geography Professional Seminar
- GEOG 5220 - Physical Geography Field Experience
- GEOG 5281 - Selected Topics in Physical Geography
- GEOG 5282 - Selected Topics in Physical Geography
- GEOG 5283 - Selected Topics in Physical Geography
- GEOG 5393 - Seminar in Human Geography

Geography Banked Courses

- GEOG 1100 - World Regional Geography
- GEOG 1201 - Introduction to Physical Geography Laboratory
- GEOG 2009 - Human Geography
- GEOG 2201 - Weather and Climate Laboratory

- GEOG 3008 - Evolution of Cartography
- GEOG 3048 - Eastern Europe
- GEOG 3201 - Land Form Analysis Laboratory
- GEOG 3221 - Natural Regions of the United States Field Studies
- GEOG 3222 - Natural Regions of the United States Field Studies
- GEOG 3223 - Natural Regions of the United States Field Studies
- GEOG 4072 - Intermediate Cartography
- GEOG 4560 – Urban Climatology
- GEOG 4570 – Hydrometeorology
- GEOG 4072 - Intermediate Cartography
- GEOG 5020 - Spatial Efficiency Analysis

Source for Department of Geography, Planning, and Environment, Applied Atmospheric Science BS Program:
http://catalog.ecu.edu/preview_program.php?catoid=4&poid=713

Applied Atmospheric Science, BS

Minimum degree requirement is **120 s.h.** of credit as follows:

1. Foundations curriculum - 42 s.h.

(For information about courses that carry foundations curriculum credit see *Liberal Arts Foundations Curriculum*.)

- MATH 1065 - College Algebra
- PHYS 1251 - General Physics Laboratory
- PHYS 1261 - General Physics Laboratory
- PHYS 2350 - University Physics
- PHYS 2360 - University Physics

2. Core - 38 s.h.

- ~~GEOG~~ ATMO 1300 - Weather and Climate
- GEOG 2250 - Earth Surface Systems
- GEOG 2400 - Spatial Data Analysis
- GEOG 2410 - Fundamentals of GIS
- GEOG 2510 - Physical Meteorology
- ~~GEOG~~ ATMO 3230 - Global Climates
- GEOG 3420 - Remote Sensing of the Environment I

- ~~GEOG 3510 - Physical Meteorology~~
- ~~GEOG~~ ATMO 3520 - Dynamic Meteorology
- ~~GEOG~~ ATMO 3550 - Principles of Synoptic Meteorology
- ~~GEOG~~ ATMO 4510 - Meteorological Instruments and Observations
- ~~GEOG~~ ATMO 4525 - Dynamic Meteorology II
- ~~GEOG~~ ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting
- GEOG 4999 - Geography Professional Seminar

3. Math Cognates - 18-20 s.h.

- MATH 1083 - Introduction to Functions or
- MATH 1085 - Pre-Calculus Mathematics

- MATH 2171 - Calculus I
- MATH 2172 - Calculus II
- MATH 2173 - Calculus III
- MATH 4331 - Introduction to Ordinary Differential Equations

4. Geospatial Technologies Electives: (Choose from the following) - 6 s.h.

- GEOG 3430 - Geographic Information Systems I
- GEOG 3450 - Introduction to the Global Positioning System
- GEOG 3460 - GIS Applications Programming
- GEOG 4150 - Advanced Spatial Analysis
- GEOG 4410 - Advanced Cartographic Design and Production
- GEOG 4420 - Remote Sensing II
- GEOG 4430 - Geographic Information Systems II
- GEOG 4440 - Coastal Applications of GIS
- GEOG 4450 - GIScience, Society and Technology
- GEOG 4460 - Digital Terrain Analysis

5. Atmospheric Science Electives (Choose from the following) - 6 s.h.

- CHEM 1150 - General Chemistry I
- CHEM 1151 - General Chemistry Laboratory I
- ~~GEOG~~ ATMO 4520 - Boundary Layer Meteorology
- ~~GEOG~~ ATMO 4530 - Micrometeorology
- ~~GEOG~~ ATMO 4540 - Coastal Storms
- ~~GEOG 4560 - Urban Climatology~~
- ~~GEOG 4570 - Hydrometeorology~~
- ~~GEOG~~ ATMO 4580 - Radar and Satellite Meteorology
- ~~GEOG~~ ATMO 4590 - Tropical Meteorology

6. Geography Electives (Choose from the following) - 6 s.h.

- GEOG 2350 - Climate Change: Science and Society
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3250 - Environmental Hazards
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4270 - Water Resources Management and Planning
- GEOG 4801 - Geographic Internship
- GEOG 4802 - Geographic Internship
- GEOG 4803 - Geographic Internship

7. General electives to complete requirements for graduation.

Source for Department of Geography, Planning, and Environment, Applied Geography BS Program:
http://catalog.ecu.edu/preview_program.php?catoid=4&poid=711

Applied Geography, BS

Minimum degree requirement is **120 s.h.** of credit as follows:

1. Foundations curriculum - 42 s.h.

(For information about courses that carry foundations curriculum credit see *Liberal Arts Foundations Curriculum*.)

- COMM 2410 - Public Speaking or
- COMM 2420 - Business and Professional Communication

- MATH 1065 - College Algebra

2. Core - 43 s.h.

(Choose a minimum of 27 s.h. in geography above 2999, including a maximum of 3 s.h. of supervised study in each of the categories below.)

- ENGL 3820 - Scientific Writing or
- ENGL 3860 - Introduction to Nonfiction Writing or

- ENGL 3880 - Writing for Business and Industry or
- ITEC 3290 - Technical Writing

- GEOG 2400 - Spatial Data Analysis
- GEOG 2410 - Fundamentals of GIS

- GEOG 4801 - Geographic Internship or
- GEOG 4802 - Geographic Internship or
- GEOG 4803 - Geographic Internship

- GEOG 4999 - Geography Professional Seminar

Geographic Information Science:

(Choose 9 s.h. from the following.)

- GEOG 3420 - Remote Sensing of the Environment I
- GEOG 3430 - Geographic Information Systems I
- GEOG 3450 - Introduction to the Global Positioning System
- GEOG 3460 - GIS Applications Programming
- GEOG 4150 - Advanced Spatial Analysis
- GEOG 4410 - Advanced Cartographic Design and Production
- GEOG 4420 - Remote Sensing II
- GEOG 4430 - Geographic Information Systems II
- GEOG 4440 - Coastal Applications of GIS
- GEOG 4450 - GIScience, Society and Technology
- GEOG 4460 - Digital Terrain Analysis
- GEOG 4491 - Supervised Study in Geographic Techniques
- GEOG 4492 - Supervised Study in Geographic Techniques
- GEOG 4493. - Supervised Study in Geographic Techniques
- GEOG 4900 - Honors Research

Human:

(Choose 9 s.h. from the following.)

- GEOG 2003 - Geography in the Global Economy
- GEOG 2019 - Geography of Recreation
- GEOG 2100 - World Geography: Developed Regions
- GEOG 2110 - World Geography: Less Developed Regions
- GEOG 2350 - Climate Change: Science and Society
- GEOG 2300 - Geography of Environmental Resources *
- GEOG 3001 - Historical Geography of the United States

- GEOG 3003 - Political Geography
- GEOG 3004 - Urban Geography
- GEOG 3049 - Latin America
- GEOG 3050 - Africa
- GEOG 3051 - Asia
- GEOG 3055 - North Carolina
- GEOG 3056 - Middle America
- GEOG 3250 - Environmental Hazards *
- GEOG 4140 - Research Methods in Human Geography
- GEOG 4191 - Supervised Study in Regional Geography
- GEOG 4192 - Supervised Study in Regional Geography
- GEOG 4193 - Supervised Study in Regional Geography
- GEOG 4270 - Water Resources Management and Planning *
- GEOG 4310 - Geography of Transportation and Trade
- GEOG 4315 - Geographic Images
- GEOG 4320 - Gender, Economy, and Development
- GEOG 4325 - Resources, Population, and Development
- GEOG 4330 - Agricultural Geography
- GEOG 4335 - Geography of Tourism
- GEOG 4340 - Introduction to Medical Geography
- GEOG 4391 - Supervised Study in Human Geography
- GEOG 4392 - Supervised Study in Human Geography
- GEOG 4393 - Supervised Study in Human Geography
- GEOG 4900 - Honors Research
- GEOG 5391. Seminar in Human Geography (1) (P: Consent of instructor)
- GEOG 5392. Seminar in Human Geography (2) (P: Consent of instructor)
- GEOG 5393 - Seminar in Human Geography

Note:

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*May count in only one area.

Environmental:

(Choose 9 s.h. from the following.)

- GEOG 1300 - Weather and Climate
- GEOG 2250 - Earth Surface Systems
- GEOG 2300 - Geography of Environmental Resources *
- GEOG 2510 – Physical Meteorology
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3230 - Global Climates
- GEOG 3250 - Environmental Hazards *

- ~~GEOG 3510 - Physical Meteorology~~
- ~~GEOG~~ ATMO 3520 - Dynamic Meteorology
- ~~GEOG~~ ATMO 3550 - Principles of Synoptic Meteorology
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4270 - Water Resources Management and Planning *
- GEOG 4291 - Supervised Study in Physical Geography
- GEOG 4292 - Supervised Study in Physical Geography
- GEOG 4293 - Supervised Study in Physical Geography
- GEOG 4510 - Meteorological Instruments and Observations
- ~~GEOG~~ ATMO 4520 - Boundary Layer Meteorology
- ~~GEOG~~ ATMO 4525 - Dynamic Meteorology II
- GEOG 4530 - Micrometeorology
- GEOG 4540 - Coastal Storms
- ~~GEOG~~ ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting
- ~~GEOG 4560 - Urban Climatology~~
- ~~GEOG 4570 - Hydrometeorology~~
- GEOG 4580 - Radar and Satellite Meteorology
- GEOG 4590 - Tropical Meteorology
- GEOG 4900 - Honors Research
- GEOG 5220 - Physical Geography Field Experience
- GEOG 5281 - Selected Topics in Physical Geography
- GEOG 5282 - Selected Topics in Physical Geography
- GEOG 5283 - Selected Topics in Physical Geography

Note:

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*May not also count as a human course.

Electives:

(Choose 3 s.h. from the following.)

- GEOG 1000 - People, Places, and Environments
- GEOG 1250 - The Water Planet
- GEOG 4901 - Senior Honors Thesis
- May choose any GEOG course listed that is not being counted toward the degree.

3. Concentration Area - 6 s.h.

(Choose an additional 6 s.h. in either human or environmental geography, as listed above. If concentration area is environmental geography, a minimum of 3 s.h. must be above 3999)

Source for Department of Geography, Planning, and Environment, Geographic Information Science and Technology BS Program:
http://catalog.ecu.edu/preview_program.php?catoid=4&poid=714

Geographic Information Science and Technology, BS

Minimum degree requirement is **120 s.h.** of credit as follows:

1. Foundations curriculum, including those listed below - 42 s.h.

(See Section 4, Foundations Curriculum Requirements for All Baccalaureate Degree Programs)

- COMM 2410 - Public Speaking or
- COMM 2420 - Business and Professional Communication

- MATH 1065 - College Algebra

2. Common Core - 31 s.h.

- GEOG 2400 - Spatial Data Analysis
- GEOG 2410 - Fundamentals of GIS
- GEOG 3420 - Remote Sensing of the Environment I
- GEOG 3430 - Geographic Information Systems I
- GEOG 3450 - Introduction to the Global Positioning System
- GEOG 3460 - GIS Applications Programming
- GEOG 4410 - Advanced Cartographic Design and Production
- GEOG 4420 - Remote Sensing II
- GEOG 4430 - Geographic Information Systems II
- GEOG 4450 - GIScience, Society and Technology
- GEOG 4999 - Geography Professional Seminar

3. GIS electives - 6 s.h.

(Choose from the following)

- GEOG 4150 - Advanced Spatial Analysis
- GEOG 4440 - Coastal Applications of GIS
- GEOG 4460 - Digital Terrain Analysis
- GEOG 4540 - Coastal Storms
- GEOG 4491 - Supervised Study in Geographic Techniques
- GEOG 4492 - Supervised Study in Geographic Techniques
- GEOG 4493. - Supervised Study in Geographic Techniques
- GEOG 4580 - Radar and Satellite Meteorology
- GEOG 4801 - Geographic Internship
- GEOG 4802 - Geographic Internship
- GEOG 4803 - Geographic Internship

4. Environmental and Human Geography - 15 s.h.

(Choose from the following; a minimum of 3 s.h. must be above 2999)

- GEOG 1300 - Weather and Climate
- GEOG 2003 - Geography in the Global Economy
- GEOG 2019 - Geography of Recreation
- GEOG 2250 - Earth Surface Systems
- GEOG 2300 - Geography of Environmental Resources
- GEOG 2350 - Climate Change: Science and Society
- GEOG 2510 - Physical Meteorology
- GEOG 3001 - Historical Geography of the United States
- GEOG 3003 - Political Geography
- GEOG 3004 - Urban Geography
- GEOG 3049 - Latin America
- GEOG 3050 - Africa
- GEOG 3051 - Asia
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3230 - Global Climates
- GEOG 3250 - Environmental Hazards
- ~~GEOG 3510 - Physical Meteorology~~
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4270 - Water Resources Management and Planning
- GEOG 4310 - Geography of Transportation and Trade
- GEOG 4315 - Geographic Images
- GEOG 4320 - Gender, Economy, and Development

- GEOG 4325 - Resources, Population, and Development
- GEOG 4330 - Agricultural Geography
- GEOG 4335 - Geography of Tourism
- GEOG 4345 - Human Migration and Global Restructuring
- GEOG 4510 - Meteorological Instruments and Observations
- GEOG 4530 - Micrometeorology
- ~~GEOG 4560 - Urban Climatology~~
- ~~GEOG 4570 - Hydrometeorology~~
- GEOG 4590 - Tropical Meteorology

Source for Department of Geography, Planning, and Environment, Geography BA Program: http://catalog.ecu.edu/preview_program.php?catoid=4&poid=712

Geography, BA

Environmental:

(In concentration area, a minimum of 3 s.h. must be above 3999.)

- GEOG 1300 - Weather and Climate
- GEOG 2250 - Earth Surface Systems
- GEOG 2300 - Geography of Environmental Resources *
- GEOG 2510 - Physical Meteorology
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3230 - Global Climates
- GEOG 3250 - Environmental Hazards *
- ~~GEOG 3510 - Physical Meteorology~~
- ~~GEOG~~ ATMO 3520 - Dynamic Meteorology
- ~~GEOG~~ ATMO 3550 - Principles of Synoptic Meteorology
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4270 - Water Resources Management and Planning *
- GEOG 4291 - Supervised Study in Physical Geography
- GEOG 4292 - Supervised Study in Physical Geography
- GEOG 4293 - Supervised Study in Physical Geography
- GEOG 4510 - Meteorological Instruments and Observations
- ~~GEOG~~ ATMO 4520 - Boundary Layer Meteorology

- ~~GEOG~~ ATMO 4525 - Dynamic Meteorology II
- GEOG 4530 - Micrometeorology
- GEOG 4540 - Coastal Storms
- ~~GEOG~~ ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting
- ~~GEOG 4560 - Urban Climatology~~
- ~~GEOG 4570 - Hydrometeorology~~
- GEOG 4580 - Radar and Satellite Meteorology
- GEOG 4590 - Tropical Meteorology
- GEOG 4900 - Honors Research
- GEOG 5220 - Physical Geography Field Experience
- GEOG 5281 - Selected Topics in Physical Geography
- GEOG 5282 - Selected Topics in Physical Geography
- GEOG 5283 - Selected Topics in Physical Geography

Source for Department of Geography, Planning, and Environment, Atmospheric Science Certificate:

http://catalog.ecu.edu/preview_program.php?catoid=4&poid=716

Atmospheric Science Certificate

1. Core - 13 s.h.

- GEOG 1300 - Weather and Climate
- GEOG 2510 - Physical Meteorology
- GEOG 3230 - Global Climates
- ~~GEOG 3510 - Physical Meteorology~~
- GEOG 4510 - Meteorological Instruments and Observations

2. Electives - 3 s.h.

- EHST 3600 - Air Pollution
- GEOG 3250 - Environmental Hazards
- ~~GEOG~~ ATMO 3520 - Dynamic Meteorology
- ~~GEOG~~ ATMO 3550 - Principles of Synoptic Meteorology

- GEOG 4210 - Fluvial and Hydrological Processes
- ~~GEOG~~ ATMO 4520 - Boundary Layer Meteorology
- ~~GEOG~~ ATMO 4525 - Dynamic Meteorology II
- GEOG 4530 - Micrometeorology
- GEOG 4540 - Coastal Storms
- ~~GEOG~~ ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting
- ~~GEOG 4560 - Urban Climatology~~
- ~~GEOG 4570 - Hydrometeorology~~
- GEOG 4580 - Radar and Satellite Meteorology
- GEOG 4590 - Tropical Meteorology

Course Descriptions for new Applied Atmospheric Science courses referenced on first three pages of the above marked copy. Courses will be listed in the links on

http://catalog.ecu.edu/preview_entity.php?catoid=4&ent_oid=290&returnto=256

Applied Atmospheric Science (ATMO) new courses: Description

ATMO 1300 - Weather and Climate

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4 F,S,SS Same as GEOG 1300

Introductory survey of meteorology including weather and climate principles, processes, and patterns, at a variety of scales from local to global.

ATMO 2510 - Physical Meteorology

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3 F Same as GEOG 2510

P: ATMO 1300 or GEOG 1300; MATH 1065; or consent of instructor. Basic principles of atmospheric hydrostatics, thermodynamics, cloud and precipitation processes, and radiative transfer.

ATMO 3230 - Global Climates

3 S Same as GEOG 3230

P: ATMO 1300 or GEOG 1300; MATH 1065; or consent of instructor. Variation in global climates as related to atmospheric circulation patterns and processes.

ATMO 3520 - Dynamic Meteorology

3 S

P: ATMO 1300 or GEOG 1300; MATH 2172, PHYS 2360; or consent of instructor. Basic concepts and techniques of mathematics, thermodynamics, mechanics and fluid dynamics in the study of atmospheric motions and weather systems.

ATMO 3550 - Principles of Synoptic Meteorology

3 F

P: ATMO 3520; or consent of instructor. Basic concepts of synoptic scale atmospheric phenomena, including upper level waves and mid-latitude weather systems.

ATMO 4510 - Meteorological Instruments and Observations

3 F Same as GEOG 4510

P: ATMO 1300 or GEOG 1300; MATH 1065; or consent of instructor. Basic principles of meteorological instruments and measurement techniques; introduction of data logging, processing, and sources of measurement error; hands-on experience in labs and group field projects.

ATMO 4520 - Boundary Layer Meteorology

3 S

P: ATMO 3520; or consent of instructor. Structure of atmospheric boundary layers and turbulence, principles of turbulent transport and diffusion processes, their measurements and modeling.

ATMO 4525 - Dynamic Meteorology II

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3 F

P: ATMO 3520; MATH 4331; or consent of instructor. Applications of the governing equations of the atmosphere for the study of atmospheric waves, extratropical cyclones, and basic concepts in numerical weather prediction.

ATMO 4530 - Micrometeorology

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3 F Same as GEOG 4530

P: ATMO 1300 or GEOG 1300; or consent of instructor. Atmospheric processes at micro and local scales, including exchange processes of momentum, mass and energy, radiation budget and energy balance near the surface, soil temperature and heat transfer, turbulent transport, biosphere-atmosphere interactions, micrometeorological measurement and modeling techniques.

ATMO 4540 - Coastal Storms

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3 F Same as GEOG 4540

P: ATMO 1300 or GEOG 1300; or consent of instructor. Basic dynamics, analysis, and forecasting of extratropical and tropical storms; history of storms in the Carolinas and current mitigation plans.

ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting

3 S

P: ATMO 3550; or consent of instructor. Current techniques in mid-latitude weather analyses and forecasting, including chart analyses, introduction to computer meteorological analyses and visualization, numerical weather prediction, and forecast discussion, development, and evaluation.

ATMO 4580 - Radar and Satellite Meteorology

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3 S Same as GEOG 4580

P: ATMO 1300 or GEOG 1300, GEOG 3420; or consent of instructor. History, theory and applications of radar and satellite meteorology, with a focus on techniques of satellite image interpretation and radar data processing applied to severe weather forecasting and climate analysis.

ATMO 4590 - Tropical Meteorology

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3 F Same as GEOG 4590

P: ATMO 1300 or GEOG 1300; or consent of instructor. Tropical atmosphere as a key component of global weather and climate and climate prediction. Examination of the El Niño – Southern Oscillation, the Madden Julian Oscillation, tropical cyclones and monsoons and their associated climate predictability.

Course Description changes for modified Geography courses referenced on first three pages of the above marked copy. Course descriptions found in the links on

http://catalog.ecu.edu/preview_entity.php?catoid=4&ent_oid=290&returnto=256

GEOG 1300 - Weather and Climate

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4 F,S,SS FC:SC Same as ATMO 1300

Introductory survey of meteorology including weather and climate principles, processes, and patterns, at a variety of scales from local to global.

GEOG 2510 - Physical Meteorology

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3 F Same as ATMO 2510
P: GEOG 1300 or ATMO 1300; MATH 1065; or consent of instructor. Basic principles of atmospheric hydrostatics, thermodynamics, cloud and precipitation processes, and radiative transfer.

GEOG 3230 - Global Climates

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3 S Same as ATMO 3230
~~May not count toward foundations curriculum social sciences requirement.~~ P: GEOG 1300 or ATMO 1300; MATH 1065; or consent of instructor. Variation in global climates as related to atmospheric circulation patterns and processes.

~~GEOG 3510 - Physical Meteorology~~

~~**3 F**~~

~~May not count toward foundations curriculum social sciences requirement. P: GEOG 1300; MATH 1065; or consent of instructor. Basic principles of atmospheric hydrostatics, thermodynamics, cloud and precipitation processes, and radiative transfer.~~

~~GEOG 3520 - Dynamic Meteorology~~

~~**3 S**~~

~~3 lecture hours per week. May not count toward foundations curriculum social sciences requirement. P: GEOG 1300; MATH 2172, PHYS 2360; or consent of instructor. Basic concepts and techniques of mathematics, thermodynamics, mechanics and fluid dynamics in the study of atmospheric motions and weather systems.~~

~~GEOG 3550 - Principles of Synoptic Meteorology~~

~~**3 F**~~

~~P: GEOG 3520; or consent of instructor. Basic concepts of synoptic scale atmospheric phenomena, including upper level waves and mid-latitude weather systems.~~

GEOG 4510 - Meteorological Instruments and Observations

---

3 F Same as ATMO 4510

~~May not count toward foundations curriculum social sciences requirement.~~ P: GEOG 1300 or ATMO 1300; MATH 1065; or consent of instructor. Basic principles of meteorological instruments and measurement techniques; introduction of data logging, processing, and sources of measurement error; hands-on experience in labs and group field projects.

~~GEOG 4520 - Boundary Layer Meteorology~~

~~**3 S**~~

~~May not count toward foundations curriculum social sciences requirement. P: GEOG 1300; or consent of instructor. Structure of atmospheric boundary layers and turbulence, principles of turbulent transport and diffusion processes, their measurements and modeling.~~

~~GEOG 4525 - Dynamic Meteorology II~~

~~**3 F**~~

~~P: GEOG 3520; MATH 4331; or consent of instructor. Applications of the governing equations of the atmosphere for the study of atmospheric waves, extratropical cyclones, and basic concepts in numerical weather prediction.~~

GEOG 4530 - Micrometeorology

---

3 F Same as ATMO 4530

~~May not count toward foundations curriculum social sciences requirement.~~ P: GEOG 1300 or ATMO 1300; or consent of instructor. Atmospheric processes at micro and local scales, including exchange processes of momentum, mass and energy, radiation budget and energy balance near the surface, soil temperature and heat transfer, turbulent transport, biosphere-atmosphere interactions, micrometeorological measurement and modeling techniques.

GEOG 4540 - Coastal Storms

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3 F Same as ATMO 4540

~~May not count toward foundations curriculum social sciences requirement.~~ P: GEOG 1300 or ATMO 1300; or consent of instructor. Basic dynamics, analysis, and forecasting of extratropical and tropical storms; history of storms in the Carolinas and current mitigation plans.

~~GEOG 4550 - Applied Synoptic Meteorology: Analyses and Forecasting~~

~~***3 S***~~

~~*P: **GEOG 3550**; or consent of instructor. Current techniques in mid-latitude weather analyses and forecasting, including chart analyses, introduction to computer meteorological analyses and visualization, numerical weather prediction, and forecast discussion, development, and evaluation.*~~

~~GEOG 4560 - Urban Climatology~~

~~**3 F**~~

~~P: GEOG 1300; or consent of instructor. Impact of urbanization upon atmospheric processes, including energetic balance, precipitation, atmospheric circulation, and pollution.~~

~~GEOG 4570 - Hydrometeorology~~

~~**3 S**~~

~~May not count toward foundations curriculum social science requirement. P: GEOG 1300; or consent of instructor. Theory and observation of atmospheric processes as they relate to surface hydrology. Emphasis on measurement, prediction, and Climatology of precipitation, evapotranspiration and associated hydrologic events, such as flooding.~~

GEOG 4580 - Radar and Satellite Meteorology

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3 S Same as ATMO 4580

P: GEOG 1300 or ATMO 1300, GEOG 3420; or consent of instructor. History, theory and applications of radar and satellite meteorology, with a focus on techniques of satellite image interpretation and radar data processing applied to severe weather forecasting and climate analysis.

GEOG 4590 - Tropical Meteorology

---

3 F Same as ATMO 4590

P: GEOG 1300 or ATMO 1300; or consent of instructor. Tropical atmosphere as a key

component of global weather and climate and climate prediction. Examination of the El Niño – Southern Oscillation, the Madden Julian Oscillation, tropical cyclones and monsoons and their associated climate predictability.

Agenda Item: V. College of Nursing

NA