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October 15, 2011

Dear Curriculum Review Committee:

The Curriculum in the Environment and Ecology (CEE) has undertaken a substantial revision of its undergraduate major concentrations in an effort to clarify the courses required for each concentration, to reduce the number of concentrations necessary to be supported, and to streamline the program for purposes of meeting Tarheel Tracker needs. As such, changes have been made to both the BA and BS degrees.

The new requirements should improve the advising process at all levels of academic advising. The clarification of courses to be utilized should simplify the registration process for students. These changes do not impact the total number of credit hours to earn the degree and do not impact the number of courses to be taken for a given category.

We have also corrected a statement about requirements for earning a minor to simplify the advising process for minors as well. The new minor statement simply states that students must take a minor in an allied science. We will not request approval for all minor courses any longer. We list one course that has an application pending. MASC 444, Marine Phytoplanton, was recently submitted for approval as a new course. If it is approved, the faculty member making this request, Adrian Marchetti, has asked for this course to be included. Therefore, we have listed it in three (3) places in the curriculum where it might count: 1. BA concentration in Ecology and Society, 2. BS concentration in Ecology in Natural Resources, and 3. BS concentration in Environmental Health.

We attach the Undergraduate Bulletin pages for the CEE/ENST curriculum tracked in MS Word. These changes have been vetted by the faculty and chairs of affected departments. Sincerely,

Jaye Cable

Programs of Study

The degrees offered are the bachelor of arts with a major in environmental studies and the bachelor of science with a major in environmental science. A minor Minors are offered in environmental science, in environmental and and studies, and a minor in in sustainability studies are also offered.

Majoring in Environmental Studies: Bachelor of Arts

Core Requirements

- ENST 201 and 202
- One of the following courses: ENST 305; GEOG 370, 477, or 491
- ENST 307 and 698
- One of the following courses: BIOL 201; ENST 222; ENST/GEOG 253; ENST/GEOL 213; ENST/MASC/PHYS/PWAD 108; ENST 213, ENST 222, GEOG/ENST 253; GEOL/ENST 110, 213.
- One of the following courses: GEOG 370, 477, or 491

Comment [EL1]: Approval pending

- ENST 307 and 698
- Five courses chosen from one of the following concentrations:

Environment and Health

ANTH 319; BIOL 568; three hours of ENST 395 or 694H, 522; ENVR 230, 412, 430, 431, 468, 470, 600; EPID 600; GEOG 434, 445, 541

Ecology and Society

ANTH 139226, 239238, 318, 320, 439; <u>ANTH/ENST 460</u>; BIOL 201, <u>272</u>, <u>277</u>/277L, <u>402</u>, <u>278/278L</u>, <u>427</u>, 461, 463, 464, 465, 469, <u>561</u>, <u>565</u>, <u>567</u>; <u>BIOL/ENST 262</u>; <u>471; ECOL 567</u>, <u>569</u>; ENST 222, 254, 261, 270, <u>352</u>, three hours of 395 or 694H, 404, <u>460</u>, 461, <u>462</u>, 471, 472, 520, 562; <u>ENST 450/ENVR 415/GEOL 450/MASC 450</u>; GEOG 228, 232, <u>261</u>, <u>264</u>, 423, 434, 444, 470, 595; <u>MASC 444</u>; <u>PLAN 550</u>, 641 <u>PLCY 370</u>

Energy and Sustainability

Comment [EL2]: Approval pending

Comment [EL3]: Approval pending

Comment [NJS4]: Course inactivated, effective

fall 2012.

Comment [EL5]: Approval pending

ENST <u>108</u>, 225, 306, <u>207</u>, 210, 261, 307, 330, <u>331</u>, 350, <u>370</u>, 395, <u>396</u>, <u>404</u>, 415, 474, 479, 480, 581, 585, 586, 685; <u>ENST/MASC 450</u>; <u>ENST/PLCY 480</u>, 585, 686; <u>ENST/PWAD 108</u>; GEOG 237, <u>414</u>, 441; <u>410</u>, 416; <u>MASC 108</u>; PHYS 108, 131; PLAN 246, 247, 499, 641;

Environmental **Behavior** and **Decision** Making

ANTH <u>422</u>, 539; <u>BIOL</u> 452; <u>COMM/ENST 375</u>; <u>ENST <u>225</u>, <u>254</u>, <u>270</u>, 305, 306, 309, 312, 350, 351, 368, 375, 395, <u>462</u>, <u>470</u>, 474, 480, <u>562</u>, <u>581</u>, <u>585</u>, <u>586</u>, 685; <u>ENSTVR/ENVRST 470</u>; <u>ENST/PLCY 480</u>, 585; <u>ENST/POLI 254</u>; <u>GEOG 237</u>, 344, 435, <u>470</u>; <u>PLAN 641</u>; <u>PLCY 475</u>; <u>PLCY/ENST 480</u>, 585, 586; <u>POLI/ENST 254</u></u>

Environment and Infrastructure

ENST 330, 420, 474, 562, 581, 685; GEOG 228, 441; GEOG/PLAN 491, 591; GEOL 508, 509; PLAN 246, 247, 550, 636

Population, Global Population, Environment, and Development

ANTH 139, 239238, 262, 318, 319, 320,370, 439, 459, <u>539</u>; ENST 254, 270266, 370, 520, 562395, 396; ENST/PLCY 520; ENVR 600; GEOG 232, 266237, 269, 445, 450, 452, 457, 470; SOCI 121, 265PLCY 475; PLCY/ENST 520

All General Education requirements must be satisfied, some with specific courses:

- BIOL 101/101L (Approaches physical and life sciences with laboratory requirement)
- CHEM 101/101L or PHYS 104/104L (Approaches physical and life sciences requirement)
- CHEM 102/102L or PHYS 105/105L
- ECON 101 (Approaches social and behavioral sciences requirement)
- ECON 400 or STOR 155 (Connections quantitative intensive requirement)
- ENGL 1051 and 102 (Foundations composition and rhetoric requirements)
- —• ENST/PHIL/ENST 368, recommended (Approaches philosophical and/or moral reasoning)
- MATH 231 (Foundations quantitative reasoning requirements)

Majoring in Environmental Science: Bachelor of Science

Core Requirements

• ENST 201 and 203

Comment [NJS6]: Per Jaye Cable on 11.3.2011, change "Global" to "Population."

Comment [EL7]: Inactivation pending

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• Three of the following earth systems courses: ENST 222; ENST/PWADMASC/PHYS 108; ENST/GEOG/ENST 110, 253; ENST/GEOL/ENST 110, 213; GEOG 110; GEOL 110; MASC 108; PHYS 108

• ENST 698

- Two courses from one of the following options:
 - BIOL 201, 202; and CHEM 261
 - o ENST 415 and MATH 383
 - ENST 562; STOR 455, 456
 - o GEOG 370, 477, 491, 577, 591

◆ Three of the following courses: BIOL 201; ENST 406; ENST/GEOG 253; ENST/GEOL 213; MASC 470

• ENST 698

• Four courses chosen from one of the following concentrations:

Environment and Health

ANTH 319; BIOL 568; three hours of ENST 395 or 694H, 522; ENVR 230, 412, 430, 431, 468, 470, 600; EPID 600; GEOG 434, 445, 541

Earth, Water, and Climate System Science

BIOL 350/ENVR 417/GEOL 403/MASC 401; ENST 222; ENST/ENVR 403; ENST 415/ENVR 461/GEOL 415/MASC 415; ENST 450/ENVR 415/GEOL 450/MASC 450; ENST/GEOG 253; ENST/GEOL/MASC 411, 450; ENVR 413, 415, 416, 419, 453; ENST/ENVR 403; ENVR 413, 415, 416, 419, 453; ENVR 417/BIOL 350/MASC 401; ENVR 461/ENST/MASC 415; GEOG 370, 412, 414, 416, 440; GEOG/ENST 253; GEOL 202, 211, 213, 417, 417L, 430, 432, 483, 508, 509, 510; MASC 312, 314, 390, 432, 460, 490, 503 ENST 211, 213, 222, 307, three hours of 395 or 694H, 403, 410, 411, 415, 417, 450, 530, 562, 581, 586; ENST 471/MASC 448; ENVR 413; GEOG 410, 416, 441, 442; GEOL 508, 509

Ecology and Natural Resources

ANTH 139, 239, 318, 320, 439; BIOL 201, 272, 277/277L, 402, 278/278L, 463, 464, 465, 469, 471/471L, 476/476L, 561, 565, 568; BIOL/ECOL/ENST 461, 562; BIOL253/ENST 404253; BIOL/ECOL/ENST 461, 562; BIOL 462/MASC 44062; ECOL 567, 569; ENST 222, 261, 352, 462, 489; ENST 450/ENVR 415/GEOL 450/MASC 450; ENST/MASC 450, 471; ENVR 449;

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Comment [EL8]: Approval pending

Comment [EL9]: Approval pending

Comment [EL10]: Approval pending

GEOG 264, 444; MASC 440, 443, 444, 445, 504; 254, 261, 270, three hours of 395 or 694H, 404, 461, 471, 472, 520, 562; GEOG 228, 232, 423, 434; PLAN 550, 641

Comment [EL11]: Approval pending
Comment [EL12]: Approval pending

Energy and Sustainability

ENST 207, 210, 261, 307, 330, 331, 350, 404, 415, 431, 479, 474, 479, 480, 581, 585, 586, 685; ENST 415/ENVR 460/MASC 415; ENST/PLCY 480, 585, 686ENVR 451; GEOL 215; PHYS 131/131L; ENST/MASC 450; GEOG 237, 410, 416; PLCY/ENST 480, 585, 686

Environment and Health

BIOL 402, 568; BIOL/PATH 128; ENST 222; ENST/ENVR 522; ENVR 403, 412, 413, 416, 419, 421, 430, 431, 442, 451, 600; EPID 600; MASC 443, 444

Comment [EL13]: Approval pending

Environmental Decision Making

ANTH 539; ENST 254, 270, 350, 351, 368, 375, 395, 470, 474, 480, 562, 585, 685; GEOG 435

Environment and Infrastructure

ENST 330, 420, 474, 562, 581, 685; GEOG 228, 441; GEOG/PLAN 491, 591; GEOL 508, 509; PLAN 246, 247, 550, 636

Additional Requirements

- BIOS 600 or STOR 155
- CHEM 102 and 102L
- COMP 116
- MATH 233
- PHYS 116 and 117
- •-Students are required to earn a minor in an allied science, such as biology, chemistry, computer science, geography, geology, marine science, mathematics, mathematical decision sciences, or physics. An approved course sequence in an allied science leading to the minor in biology, chemistry, physics, mathematics, physical geography, marine science, mathematical decision sciences, computer science, or geological science. Contact the director of undergraduate studies for approval of the minor courses.

All General Education requirements must be satisfied, some with specific courses:

• BIOL 101 and 101L (Approaches physical and life sciences with laboratory requirement)

- CHEM 101 and 101L (Approaches physical and life sciences requirement)
- ECON 101, recommended (Approaches social and behavioral sciences requirement)
- ENGL 10<u>5</u>1 and 102 (Foundations composition and rhetoric requirements)
- ENST/PHIL/ENST 368, recommended (Approaches philosophical and/or moral reasoning)
- MATH 231 (Foundations quantitative reasoning requirement)
- MATH 232 (Connections quantitative intensive requirement)