

UNIVERSITY FACULTY SENATE FORMS

Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. A checklist is available to assist in the preparation of a proposal. For more information, call the Faculty Senate Office at 831-2921.

Submitted by: John Byrne

Phone Number: 831-8405

Department: CEEP, College of Engineering **Email:** jbyrne@udel.edu

Date:

Action: Add honors B.S. degree with distinction in Energy and Environmental Policy (all concentrations)

(Example: add major/minor/concentration, delete major/minor/concentration, revise major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

Effective term: 13S

(use format 04F, 05W)

Current degree: BS

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed change leads to the degree of: HBS

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed name: Honors B.S. degree with Distinction in Energy and Environmental Policy (all concentrations)

Proposed new name for revised or new major / minor / concentration / academic unit (if applicable)

Revising or Deleting:

Undergraduate major / Concentration:

(Example: Applied Music – Instrumental degree BMAS)

Undergraduate minor:

(Example: African Studies, Business Administration, English, Leadership, etc.)

Graduate Program Policy statement change:

(Must attach your Graduate Program Policy Statement)

Graduate Program of Study:

(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

Graduate minor / concentration:

Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.

List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?

(Be aware that approval of the curriculum is dependent upon these courses successfully passing through the Course Challenge list. If there are no new courses enter "None")

No new courses required. Honors sections will be added to existing courses

Supply support letter from the Library, Dean, and/or Department Chair if needed

(all new majors/minors will need a support letter from the appropriate administrator.)

This proposal has the support of the Honors Program. (See email letter of endorsement from Michael Arnold.)

Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: <http://www.ugs.udel.edu/gened/>

The Honors Degree in Energy and Environmental Policy, like the Energy and Environmental Policy major, fully supports the 10 goals of undergraduate education. Supplement A, attached, which was provided with approval of the Energy and Environmental Policy major, provides a "curriculum map" with details that link courses and concentrations in the curriculum to specific goals of undergraduate education. The map is applicable to the Honors Degree in Energy and Environmental Policy as it has been to the current Energy and Environmental Policy major.

Identify other units affected by the proposed changes:

(Attach permission from the affected units. If no other unit is affected, enter "None")

All of the coursework the students will need to earn the Honors credits in the major will be available in ENEP honors courses or ENEP graduate level courses which will also count as Honors courses. In fact students will be able to earn the vast majority of their Honors work toward the Honors Degree in ENEP courses. Students will also have the opportunity to take some coursework in related depts. if necessary (such as CHEM103, BUAD301, ECON301 etc.) but this will not be required. Finally, students will be able to earn general Honors coursework through the means available to all Honors students, such as Honors ENGL110, an Honors colloquium, and Honors coursework in their breadth requirements. University of Delaware Honors Program

Describe the rationale for the proposed program change(s):

(Explain your reasons for creating, revising, or deleting the curriculum or program.)

An Honors Degree with Distinction option for the B.S. in Energy and Environmental Policy (all concentrations) would enhance the degree program and offer an expanded range of honors courses to honors students in related disciplines.

Program Requirements:

(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and **include a side-by-side comparison** of the credit distribution before and after the proposed change.)

Honors Bachelor of Science with Distinction in Energy and Environmental Policy (all concentrations)

The recipient must complete:

1. All requirements for the Bachelor of Science degree in Energy and Environmental Policy.
2. All University Honors Program's standard requirements for Honors Baccalaureate degree with Distinction.

3. At least 9 of the 12 Honors credits required in the major must be in ENEP courses. At least 6 of the 12 credits required in the major must be in ENEP courses level 300 or above and must include ENEP 625 (which will count as an honors course). The remaining Honors credits in the major may come from related courses required for the major.
4. The only Honors degree available in ENEP is the Honors Degree with Distinction; therefore, students must complete 6 Honors credits of ENEP472. However, the credits for ENEP472 cannot be counted as part of the 12 Honors credits required in the major.

Note: ENEP courses taken at the 600 level or higher may be considered as Honors courses.

See Supplement B: Course Plan for Honors Degree in Energy and Environmental Policy

ROUTING AND AUTHORIZATION: (Please do not remove supporting documentation.)

Department Chairperson *[Signature]* Date 1-24-13
 Dean of College *[Signature]* Date 2/5/2013
 Chairperson, College Curriculum Committee *[Signature]* Date 2/5/13
 Chairperson, Senate Com on UG or GR Studies _____ Date _____
 Chairperson, Senate Coordinating Com _____ Date _____
 Secretary, Faculty Senate _____ Date _____
 Date of Senate Resolution _____ Date to be Effective _____
 Registrar _____ Program Code _____ Date _____
 Vice Provost for Academic Affairs & International Programs _____ Date _____
 Provost _____ Date _____
 Board of Trustee Notification _____ Date _____

Revised 02/09/2009 /khs

**Supplement A: Curriculum Map of Honors Degree in Energy and Environmental Policy
with UD General Education Goals and UAPP Learning Outcomes**

ENEP Courses	UD Goal #1	UD Goal #2	UD Goal #3	UD Goal #4	UD Goal #5	UD Goal #6	UD Goal #7	UD Goal #8	UD Goal #9	UD Goal #10
ENEP250	X	X		X	X	X	X		X	X
ENEP410	X	X	X	X	X	X	X		X	X
ENEP424	X	X		X	X	X	X	X	X	X
ENEP468/470	X	X		X	X	X	X		X	X
ENEP625	X	X	X	X	X	X	X	X	X	X
ENEP626	X	X		X	X	X	X		X	X
Concentration										
Energy, Environment and Society (EES)	X	X	X	X	X	X	X	X	X	X
Energy, Science and Technology (EST)	X	X	X	X	X	X	X		X	X
Energy, Economics and Public Policy (EEP)	X	X	X	X	X	X	X		X	X

Goals of Undergraduate Education at the University of Delaware

1. Attain effective skills in oral and written communication, quantitative reasoning, and the use of information technology
2. Learn to think critically to solve problems
3. Be able to work and learn both independently and collaboratively
4. Engage questions of ethics and recognize responsibilities to self, community, and society at large
5. Understand the diverse ways of thinking that underlie the search for knowledge in the arts, humanities, sciences, and social sciences
6. Develop the intellectual curiosity, confidence, and engagement that will lead to lifelong learning
7. Develop the ability to integrate academic knowledge with experiences that extend the boundaries of the classroom
8. Expand understanding and appreciation of human creativity and diverse forms of aesthetic and intellectual expression
9. Understand the foundations of United States society including significance of its cultural diversity
10. Develop an international perspective in order to live and work effectively in an increasingly global society

Supplement B: Course Plan for Honors Degree in Energy and Environmental Policy

FR FALL SEMESTER

ECON 151 (H) 3cr
ENGL 110 (H) or 3cr
COLLOQUIUM (H)

FR SPRING SEMESTER

ENGL 110 (H) or 3cr
COLLOQUIUM (H)
ENEP 250 (H) 3cr

SO FALL SEMESTER

ECON 301 (H) or 3cr
BUAD 301 (H) – EEP/EST
CHEM 103 (H) - EST 3cr

SO SPRING SEMESTER

ENEP 424 (H) 3cr

JR FALL SEMESTER

ENEP 468 or 470 (H) 3cr
ENEP 410 (H) 3cr

JR SPRING SEMESTER

ENEP 626 (grad course option can count as H) 3cr

SR FALL SEMESTER

SR SPRING SEMESTER

ENEP 625* (required HD capstone) 3cr
ENEP 472 (H) 6cr

* ENEP Capstone course will count as Honors credit because Honors students will take the graduate level course.

ENEP UNDERGRADUATE PROGRAM

Preparing ENEP Majors to Design, Conduct and Write Research Papers

The ENEP major¹ was created from the experience of the faculty at the Center for Energy & Environmental Policy who have administered master's (MEEP) and PhD (PhD-ENEP) degrees for more than 20 years. The major finishes with a 6-credit Senior Research Paper² (ENEP 472) defended before two Program Faculty members who must be from *different* departments. The Senior Research Paper is expected to be 35-50 pages in length (double-spaced). All students enrolled in the major must complete and defend their Senior Research Paper in order to graduate.

The Senior Research Paper requirement grows out of two findings of the Program Faculty:

1. The major prepares graduates to enter private, public and non-profit organizations seeking analytically trained individuals. The demand for individuals trained in the field is mainly to fill policy/regulatory analyst, researcher and program evaluation positions. Often, organizations are looking for individuals who have a basic or better understanding of the underlying science and engineering aspects of energy and environmental challenges and who also have training in economic and policy analysis, with an ability to advise decision makers, through objective analysis, of the appropriate courses of action.
2. Students accepted into the MEEP degree program over the last 20 years who defended theses in order to graduate performed noticeably better than counterparts with similar academic records but who did not have this skill at graduation. The Program Faculty see the major as preparation for graduate study for a sizable percentage of graduates and, therefore, inclusion of this requirement improves the competitiveness of its graduates.

To prepare students for the several skills needed to succeed in the field, the Program Faculty built into the major distinct activities for students to learn how to design and conduct research and to write high-quality policy/economic/technical research papers. The defended Senior Research Paper is the outgrowth of these activities. They are as follows:

¹ Please consult the following link for a summary of the major and its 3 concentrations:
http://www.ceep.udel.edu/academics/applying/ENEP-BS_Plans_of_Study.pdf Please also see:
http://www.ceep.udel.edu/academics/applying/Senior_Research_Paper_Registration_%20Form_ENEP472.pdf

² The Undergraduate Research Program asks that we change the name of the ENEP 472 course from Senior Research Paper to Senior Research Thesis. The Undergraduate Research Program recognizes we cannot complete this change before the vote of the College and the Faculty Senate. CEEP will endeavor to make this change when the UD cycle for course name changes permits.



- Completing ENEP courses designed to fulfill second writing requirements – all 400-level ENEP courses include writing requirements that meet the University second-writing requirement. These include:
 - ENEP 410 (3 cr): Political Economy of Environment – requires a 12-15 pp. book review. In consultation with a CEEP graduate student (who provides in-class and out-of-class training on how to prepare the book review) assigned to the course, students select a book from a published list (all are research-based), prepare an outline, submit a draft and then submit a final paper (accounting for 30% of their grade).
 - ENEP 425 (3 cr): Energy Policy and Administration – requires a 10-12 pp. final paper on a subject involving at least one thematic section of the course. Preparation of the paper occurs in consultation with the CEEP graduate student assigned to the course for this purpose. At least two out-of-class meetings with the graduate student are required. The final paper accounts for 25% of their grade).
 - ENEP 426 (3 cr): Climate Change: Science, Policy and Political Economy – requires two research essays of 7-8 pp. each and the completion of a spreadsheet analysis of the UD carbon footprint based on data provided to them. An in-class presentation of each student's spreadsheet reports on 4 topics – the estimated carbon content of the University's energy supply, the estimated carbon content of the University's vehicle fleet and commuters (faculty, staff and students), the carbon impact of the University's building stock and associated plug loads, and the estimated effects of specified University policy changes. Together, these activities account for 85% of the final course grade
 - ENEP 427 (3 cr): Sustainable Energy Technologies and Policies – requires a 17-20 pp. research paper and a poster. Students are graded on their research proposal, their research outline, their final paper, their poster, and their in-class presentation of their poster. Together these separately graded activities comprise 50% of the final course grade. Students work with two CEEP graduate students assigned to the course.

Students in each concentration of the major take at least 3 of the second-writing courses listed above. Honors students must write more advanced research papers, and in ENEP 427 (formerly (ENEP 424) prepare more than one conference poster.

- Completing a Research Internship (ENEP 364) – all students in the major are required to complete a research internship for 3 credits. In order to register for the course, each student must complete a form³ and obtain their faculty advisor's signature. On the form, the student defines the nature of the research activity, the organizational host and the benefits to the student's program of study. A 10-12 pp. paper, developed with the student's faculty advisor, is the main basis for the final course grade. Internships are developed in one of three ways:

³ Please see http://www.ceep.udel.edu/academics/applying/Internship_Registration_Form_ENEP364.pdf



- Option 1: a) Students identify the proposed topic(s) of their undergraduate research to their advisor; b) The advisor indicates whether s/he has industry, government or other contacts in the student's area of interest and suggests an application process by the student with the support of the advisor; if the advisor does not have relevant contacts, c) the student's interest is communicated to CEEP's director and associate director who identify contacts for the student
- Option 2: In parallel, the student can explore on the Internet and elsewhere opportunities and then elicit the assistance of their advisor and, if needed, the Centers' director and associate director.
- Option 3: The student reviews the annually published CEEP Research Portfolio (which contains 12-17 research projects) and decides if volunteering on any of the projects would meet their needs for a research internship. If yes, they can volunteer, for a CEEP project, with the support of their advisor.
- Completing a Readings Tutorial (ENEP 470) – all students in the major complete a 3-credit tutorial with a faculty expert for the purpose of preparing a draft of the research literature review that can be used in the Senior Research Paper. Depending upon the type of research a student has selected, it is possible to select a 3-credit Research Tutorial (ENEP 468) instead of the Readings Tutorial. Both tutorials include a 10-12 pp. paper which accounts for the bulk of the final course grade. Prior permission to enroll in the tutorial is required.⁴

With this preparation, the student then enrolls in ENEP 472, the Senior Research Paper course for 6 credits, and, with their committee's advice, prepares the Senior Research Paper.⁵ As a widely recognized hallmark of undergraduate distinction, a Senior Research Paper demonstrates to graduate schools, fellowship committees, and employers a student's intellectual achievement and sophistication as well as their initiative and self discipline. As the capstone of their undergraduate experience, a Senior Research Paper provides students with the opportunity to draw upon what they have learned in and beyond their work for the major and to make a significant contribution of their own. Students who complete a Senior Research Paper will earn either a Degree with Distinction (DwD) or—if they are pursuing an Honors Degree—they will earn an Honors Degree with Distinction (HDwD). Requirements for earning the DwD or the HDwD include the successful research, writing, and defense of the 6-credit ENEP 472, and meeting certain GPA and course requirements outlined on the URP website. The University Undergraduate Research Program has agreed to accept senior theses written for ENEP 472 in lieu of the UNIV 401-402 sequence.

The 6-credit ENEP 472 Senior Research Paper consists of the following:

1. Abstract – typically 1 pp.

⁴ See http://www.ceep.udel.edu/academics/applying/Undergraduate_Tutorial_Course_Registration_Form.pdf

⁵ Students enroll for 6 credits in their senior year, typically either in the Winter session or the Spring session. Those enrolled during the Winter session normally will receive an 'S' grade until defense of the paper occurs in the following spring.



2. Statement of the Problem – typically 1-2 pp.
3. Background on the Problem (including a literature review) – typically -6-8 pp.
4. Description of the Research Undertaken by the Student (including a description of data, methods and key concepts guiding their research) – typically 5-12 pp.
5. Presentation of the Student's Analysis (including figures, tables, models, etc.) – typically 10-18 pp.
6. Report of Key Findings – typically 4-6 pp.
7. Recommendations (for example to public policy, to organization decision makers, etc.) – typically 4-5 pp.
8. List of References – typically 30 or so references are expected (4-8 pp.)

Students enrolled in ENEP 472 will also have the same opportunities as students enrolled in the University's senior research thesis courses (UNIV 401 & 402) to participate in additional activities, which include the following:

1. *Attending an orientation session at the beginning of each semester.
2. *Presenting their work to a small group of students twice a year, once in the fall, and again in the spring. Students in ENEP 472 may also have the option of attending another group's presentations and providing those students with feedback on their work.
3. Attending a session demonstrating how to format a Paper (e.g., incorporating figures, tables, and graphs into a paper). Sessions are held twice in the fall and twice in the spring; students only have to attend one session.
4. Attending and having the option to present their work at the Senior Research Thesis Symposium, held on the first Saturday each May.
5. Receiving a graduation medal for their senior research paper. The medal signifies the student has earned a Degree with Distinction, which is an enriched degree indicating a student's success in researching, writing, and defending their work.
6. Students who complete ENEP 472 have the option of depositing their Senior Research Paper into the University's institutional repository, an online archive that makes the student's work publicly accessible. (Note: this is not mandatory. Students must opt in by granting the URP permission to deposit their work, and students retain copyright of their work.)

*The orientation session and the presentations are scheduled for Monday afternoons from 3:35 pm – 5:30 pm. If students enrolled in ENEP 472 would like to participate in these sessions, they may want to keep their Monday afternoon class time (3:35 pm – 5:30 pm) open on their schedule.





Honors Program

186 N. College Avenue
Newark, DE 19716-1256
Phone: 302.841.1191
Fax: 302.841.4196
Email: honorsprogram@udel.edu

December 17, 2012

John Byrne, Director
Distinguished Professor of Energy and Climate Policy
Center for Energy and Environmental Policy
University of Delaware

Dear John:

I am submitting this letter in support of the proposed Honors Degree with Distinction in Energy and Environmental Policy. This degree option offers an interesting and challenging course of study for students in the Honors Program. I am particularly excited about the research focus that is built into the degree requirements.

The proposal specifies a clear academic plan for achieving the Honors Degree with Distinction within a four-year timeline. The degree offers an interesting selection of Honors courses in Energy and Environmental Policy and in related disciplines such as Economics and Chemistry in which there are ample Honors offerings to accommodate students pursuing this degree. Because this degree does not change the total number of Honors students admitted to the University, it will not require additional resources from the Honors Program directly. In short, this degree will be an outstanding addition to the Honors Program, and I strongly support its approval.

I thank you and your colleagues for moving forward with a proposal that will enhance the Honors Program offerings at the University. Please feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads 'Michael Arnold'.

Michael Arnold
Director

Date: Tue, 18 Dec 2012 21:16:16 +0000
From: "Arnold, Michael A" <marnold@UDel.Edu>
To: "Byrne, John Michael" <jbbyrne@UDel.Edu>,
"Allegretto, Jama M." <jama@UDel.Edu>
Cc: "Wang, Young-Doo" <youngdoo@UDel.Edu>, "jbnov@yahoo.com" <jbnov@yahoo.com>
Subject: RE: update on ENEP proposal (fwd) // URGENT request re ENEP

John:

A letter of support from the Honors Program is attached. I'm excited to see this degree becoming official! I will also send it separately to Tunde, Chuck and Michael Vaughan.

Thanks for all of your work in moving this forward.

Sincerely,

Michael

-----Original Message-----

From: John Michael Byrne [mailto:jbbyrne@UDel.Edu]
Sent: Monday, December 17, 2012 4:56 PM
To: Arnold, Michael A; Allegretto, Jama M.
Cc: Wang, Young-Doo; jbnov@yahoo.com
Subject: update on ENEP proposal (fwd) // URGENT request re ENEP

Greetings Michael and Jama,

I missed Jama's call by 30 seconds and was not able to reconnect.

As you probably already know, The Undergraduate Research Program has approved substitution of ENEP 472 for UNIV 401 and 402. Please see below.
Our thanks for your strong support for ENEP on this score!

I now have an urgent favor to ask.

The College of Engineering review of our proposal got stuck on one issue -- they want to see the letter from Undergraduate Honors BEFORE they will endorse the proposal. Is there any way you could prepare a letter expressing your support and send it to me before the week ends and we go into hibernation?

With your letter, I will ask the College of Engineering to move the proposal forward without waiting until its February meeting. I am worried that waiting until February could jeopardize Chelsea Cox's opportunity to graduate with an honors degree. She will meet all requirements for a degree with distinction but she deserves an opportunity to earn an honors degree with distinction.

Please use my personal yahoo address to reply to my request. I filled this week with lots of off-campus meetings and my yahoo account is synced to my phone. I would ask that you not share the yahoo address with others. I have copied my yahoo address on this email.

If you decide to issue a letter before the holiday, please email it to my dean, "Babatunde A. Ogunnaike" <ogunnaik@UDel.Edu>, with a copy to me at my yahoo address -- jbnov@yahoo.com

Again, my thanks for your able help and strong encouragement!

Wishing you a Happyt Holiday! John

John Byrne, Director and Phone: (302) 831-8405
Distinguished Professor of
Energy and Climate Policy FAX: (302) 831-3098
Center for Energy &
Environmental Policy E-mail: jbbyrne@udel.edu
University of Delaware Website: http://ceep.udel.edu
Newark, DE 19716-7301 USA Bio: http://ceep.udel.edu/Bios/Byrne.pdf

----- Forwarded message -----

Date: Mon, 17 Dec 2012 20:44:54 +0000
From: "Meiman, Margaret E." <meiman@UDel.Edu>
To: "Byrne, John Michael" <jbbyrne@UDel.Edu>
Cc: "Overby, Lynnette Y." <overbyl@UDel.Edu>
Subject: update on ENEP proposal

Dear John,

I hope your meeting this morning went well. Lynnette and I received some feedback from the Board of Senior Thesis Readers about your proposal and have addressed their concerns. This means that we ("we" refers to the Board as well as Lynnette and I) can approve your moving forward with your proposal

Best wishes,
Meg

Meg Meiman
Program Director, Undergraduate Research Program University of Delaware
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[Part 2, "Letter of Support for Honors Degree in Energy and]
[Environmental Policy.docx"]
[Application/VND.OPENXMLFC...INGML.DOCUMENT 29KB.]
[Unable to print this part.]