UNIVERSITY of WASHINGTON

Michael K. Young
President

January 29, 2014

Dean Michael B. Bragg
College of Engineering
Box 352180

Dear Michael:

Based on the recommendation of its Subcommittee on Admissions and Programs, the Faculty Council on Academic Standards has recommended approval of an option in Nanoscience and Molecular Engineering within the Bachelor of Science in Electrical Engineering degree. A copy of the approval is attached.

I am writing to inform you that the College of Engineering is authorized to specify these requirements beginning autumn quarter 2013.

The new requirements should be incorporated in printed statements and in individual department websites as soon as possible. The *General Catalog* website will be updated accordingly by the Registrar's Office.

Sincerely yours,

Michael K. Young
President

Enclosure

cc: Mr. Stephen Graham (with enclosure)
Mr. Robert Corbett (with enclosure)
Ms. Virjean Edwards (with enclosure)

301 Gerberding Hall • Box 351230 • Seattle, Washington 98195-1230 • 206.543.5010 • Fax 206.616.1784 • president@uw.edu

JUN 18 2013

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UNIVERSITY OF WASHINGTON

CREATING AND CHANGING UNDERGRADUATE ACADEMIC PROGRAMS

1 copy

After college/school/campus review, send a signed original and ~~8 copies~~ to the Curriculum Office/FCAS, Box 355850.

For information about when and how to use this form: http://depts.washington.edu/uwcr/1503instructions.pdf

College/Campus Engineering	**Department/Unit** Electrical Engineering	**Date** 5/2/2013

New Programs

- ☐ Leading to a Bachelor of _____ in _____ degree.
- ☐ Leading to a Bachelor of _____ degree with a major in _____.
- ☒ Leading to a Nanoscience and Molecular Engineering Option within the existing major in Electrical Engineering.
- ☐ Leading to a minor in _____

Changes to Existing Programs

- ☐ New Admission Requirements for the Major in _____ within the Bachelor of _____.
- ☐ Revised Admission Requirements for the Major in _____ within the Bachelor of _____.
- ☐ Revised Program Requirements for the Major in _____ within the Bachelor of _____.
- ☐ Revised Requirements for the Option in _____ within the major in _____.
- ☐ Revised Requirements for the Minor in _____

Other Changes

- ☐ Change name of program from _____ to _____.
- ☐ New or Revised Continuation Policy for _____.
- ☐ Eliminate program in _____.

Proposed Effective Date: **Quarter:** ☒ Autumn ☐ Winter ☐ Spring ☐ Summer **Year:** 20 13

Contact Person: Stephen Graham	Phone: 3-2142	Email: graham@ee.washington.edu	Box: 352500

EXPLANATION OF AND RATIONALE FOR PROPOSED CHANGE

For new program, please include any relevant supporting documentation such as student learning outcomes, projected enrollments, letters of support and departmental handouts. (*Use additional pages if necessary*).

Establishment of a degree option in Nanoscience and Molecular Engineering within the Electrical Engineering program is in accord with an agreement to established linked options within Bioengineering, Chemical Engineering, Chemistry, Mechanical Engineering, Materials Science and Engineering, and Physics. Students will take a common core of NME 220 Introduction to Nanoscience and Molecular Principles and two seminar credits (NME 221 and 421). They will then select a concentration area within the EE major that has been designated as appropriate for the option.

OTHER DEPARTMENTS AFFECTED

List all departments/units/ or co-accredited programs affected by your new program or changes to your existing program and acquire the signature of the chair/director of each department/unit listed. Attach additional page(s) if necessary. *See online instructions.

Department/Unit:	Chair/Program Director:	Date:
Department/Unit:	Chair/Program Director	Date:

EE NME

CATALOG COPY

Catalog Copy as currently written. Include only sections/paragraphs that would be changed if your request is approved. Please cross out or otherwise highlight any deletions.

see attached.

PROPOSED CATALOG COPY

Reflecting requested changes (Include exact wording as you wish it to be shown in the printed catalog. Please underline or otherwise highlight any additions. If needed, attach a separate, expanded version of the changes that might appear in department publications). **Please note:** all copy will be edited to reflect uniform style in the General Catalog.

see attached.

APPROVALS

Chair/Program Director: Vikram Jandhyala	Date: May 2, '13
College/School/Campus Curriculum Committee:	Date: 6.4.13
Dean/Vice Chancellor:	Date: 6/5/13
Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair:	Date: 10/11/13

POST TRI-CAMPUS APPROVAL (when needed)

Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair:	Date: 22 NOV 2013

Existing Catalog Copy

Department Admission Requirements

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Upper-Division Admission

1. *Course requirements:* MATH 124, MATH 125, MATH 126; PHYS 121, PHYS 122; CHEM 142; 5 credits of English composition.
2. 64 credits completed by application deadline (July 1 for autumn admission; February 1 for spring admission).
3. *Grade requirements:* Minimum overall 2.50 GPA and minimum 2.50 GPA in courses required for admission.

Students may also declare into the electrical engineering degree program through the College of Engineering Advanced Admission program (see College of Engineering section for Advanced Admission entrance and continuation requirements).

Graduation Requirements

...

Major Requirements (80-81 credits)

1. *Computer Programming (9 credits):* CSE 142, CSE 143
2. *Electrical Engineering Core (14 credits):* E E 215, E E 233, E E 235
3. *Electrical Engineering Major Concentration Area (24 credits minimum)*
4. *Electrical Engineering Electives (up to 20 credits):* See adviser for list of acceptable courses. Number of credits of the major concentration and electives should total 44.
5. *Professional Issues:* One course. See adviser for list of acceptable courses. Course may also be counted toward Electrical Engineering Core, Electrical Engineering Major Concentration Area, or Electrical Engineering Electives requirement.
6. *Engineering Electives (10 credits):* See adviser for list of acceptable courses.
7. *Statistics (3-4 credits):* STAT 390/MATH 390 or IND E 315
8. *Grade Requirements:* Minimum 2.00 GPA in all E E courses with no grade below 2.0 in any of these courses.

Electives (18-19 credits)

1. *Approved Non-Electrical Engineering Electives (10 credits):* Selected from courses listed in the departmental handbook.
2. *Free Electives (8-9 credits)*

Proposed Catalog Copy

Department Admission Requirements

...

Upper-Division Admission

1. *Course requirements:* MATH 124, MATH 125, MATH 126; PHYS 121, PHYS 122; CHEM 142; 5 credits of English composition.
2. 64 credits completed by application deadline (July 1 for autumn admission; February 1 for spring admission).
3. *Grade requirements:* Minimum overall 2.50 GPA and minimum 2.50 GPA in courses required for admission.

Students may also declare into the electrical engineering degree program through the College of Engineering Advanced Admission program (see College of Engineering section for Advanced Admission entrance and continuation requirements).

Nanoscience and Molecular Engineering Option (NME): Admission to the NME option for electrical engineering majors is by self-selection and normally occurs in winter quarter of the junior year, upon completion of all electrical engineering prerequisites and formal admission to the BS electrical engineering major. Students who have completed NME 220 with a minimum grade of 2.0 are eligible. To declare the option, set up an appointment with an EE undergraduate advisor. Students applying for the NME option should indicate that interest on their electrical engineering major application and discuss their interests/background in their application personal statement.

Graduation Requirements

...

Major Requirements (80-81 credits)

1. *Computer Programming (9 credits):* CSE 142, CSE 143
2. *Electrical Engineering Core (14 credits):* E E 215, E E 233, E E 235
3. *Electrical Engineering Major Concentration Area (24 credits minimum)*
4. *Electrical Engineering Electives (up to 20 credits):* See adviser for list of acceptable courses. Number of credits of the major concentration and electives should total 44.
5. *Professional Issues:* One course. See adviser for list of acceptable courses. Course may also be counted toward Electrical Engineering Core, Electrical Engineering Major Concentration Area, or Electrical Engineering Electives requirement.
6. *Engineering Electives (10 credits):* See adviser for list of acceptable courses.
7. *Statistics (3-4 credits):* STAT 390/MATH 390 or IND E 315
8. *Grade Requirements:* Minimum 2.00 GPA in all E E courses with no grade below 2.0 in any of these courses.

Nanoscience and Molecular Engineering Option Requirements (80-81 credits)

1. *Computer Programming (9 credits):* CSE 142, CSE 143
2. *Electrical Engineering Core (14 credits):* E E 215, E E 233, E E 235
3. *Nanoscience and Molecular Engineering Courses (6 credits):* NME 220, NME 221, NME 421.
4. *Electrical Engineering Major Concentration Area (24 credits minimum):* See adviser for list of acceptable concentrations.
5. *Electrical Engineering Electives (up to 20 credits):* See adviser for list of acceptable courses. Number of credits of the major concentration and electives should total 44.
6. *Professional Issues:* One course. See adviser for list of acceptable courses. Course may also be counted toward Electrical Engineering Core, Electrical Engineering Major Concentration Area, or Electrical Engineering Electives requirement.
7. *Engineering Electives (4 credits):* See adviser for list of acceptable courses.
8. *Statistics (3-4 credits):* STAT 390/MATH 390 or IND E 315
9. *Grade Requirements:* Minimum 2.00 GPA in all E E courses with no grade below 2.0 in any of these courses.

Electives (18-19 credits)

1. *Approved Non-Electrical Engineering Electives (10 credits):* Selected from courses listed in the departmental handbook.
2. *Free Electives (8-9 credits)*

BSEE Degree Requirements and Policies
Nanoscience and Molecular Engineering Option

Admission

Admission to the NME option for electrical engineering majors is by self-selection and normally occurs in winter quarter of the junior year, upon completion of all electrical engineering prerequisites and formal admission to the BS electrical engineering major. Students who have completed NME 220 with a minimum grade of 2.0 are eligible. To declare the option, set up an appointment with an EE undergraduate advisor. During this appointment, you will develop a course plan to complete the degree requirements and complete a Change of Major form to formally declare the option.

Degree Requirements

Unless otherwise specified, students completing the NME option are bound by the regular BSEE Degree Requirements. Students are required to complete a six-credit NME Core and have a restricted choice of Major Concentration Area.

Nanoscience and Molecular Engineering Core (6 credits)

- NME 220 Introduction to Molecular and Nanoscale Principles
- NME 221 Nanoscience and Molecular Engineering Seminar I
- NME 421 Nanoscience and Molecular Engineering Seminar III

Electrical Engineering Major Concentration Area (at least 24 credits)

The approved area for the NME Option is: Sensors & Devices. The capstone course project in any area selected must be on a topic appropriate for NME.

NME Electives

NME students may also wish to consider the following courses in addition to their Major Concentration Area.

- EE 423 Introduction to Synthetic Biology
- EE 424 Advanced Systems and Synthetic Biology
- EE 425 Laboratory Methods in Synthetic Biology
- EE 436 Medical Instrumentation
- EE 486 Fundamentals of Integrated Circuit Technology
- NME 321 Nanoscience and Molecular Engineering Seminar II
- NME 498 Special Topics in Nanoscience and Molecular Engineering
- BIOEN/CHEM E 490 Engineering Materials for Biomedical Applications
- BIOEN/CHEM E 491 Controlled-Release Systems: Principles and Applications
- BIOEN 493 Surface Analysis (Bioen 492)
- CHEM E/BIOEN 467 Biochemical Engineering
- MSE 481 Science and Technology of Nanostructures

Credits earned for these courses will count towards either Additional EE Electives, Additional College of Engineering Electives or Approved Non-EE Electives, provided that the course meets whatever other requirements apply to a specific elective group.

Additional College of Engineering Electives

The credits earned from the NME Core course reduce the credits required in this category from 10 to four.

Seminar Courses Applied to Required Credits

NME 221, 321 and 421 do *not* apply to the 2 credit seminar limit.

Undergraduate Curriculum Review Process for New Programs

Seattle: Option in Nanoscience and Electrical Engineering within the Bachelor of Science in Electrical Engineering degree (EE-20130502)

uwcr
uwcr

Edit Quote Permalink

Please review the attached 1503 pdf requesting to establish an option in Nanoscience and Molecular Engineering within the Bachelor of Science in Electrical Enigneering degree at the Seattle campus and post comments by 5:00 pm on Wednesday, November 6th.

If you have any problems viewing the attachment or need disability accommodations, please contact the University Curriculum Office at uwcr@uw.edu.

Attachments

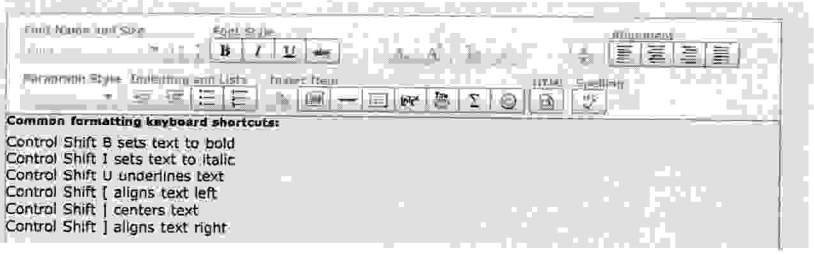
EE-20130502.pdf 1 MB
Download View

knichols
KELLI JAYN NICHOLS

Delete Edit Quote Permalink

Greetings,
A quick question for EE: they listed BIOEN 493 as "surface analysis". Actually BIOEN 492 is surface analysis. BIOEN 493 is advanced surface analysis and it is infrequently taught, whereas BIOEN 492 is taught annually and has ample space for students outside of BIOE.
Just want to make sure you got the right course.
Best,
Kelli Jayn Nichols
Academic Services Director
BIOE

Add to this conversation:



Jennifer A. Payne

From: Stephen Graham <grahams@uw.edu>
Sent: Wednesday, November 06, 2013 8:47 AM
To: Jennifer A. Payne
Cc: KELLI J. NICHOLS
Subject: Re: 1503 Option Review question

You know, we copied that from ChemE's NME Elective Course list. I suspect they have it wrong and we both mean BIOEN 492.

On 11/6/2013 8:39 AM, Jennifer A. Payne wrote:
>
> Stephen,
>
> Can you answer this question for me?
>
> Greetings,
> A quick question for EE: they listed BIOEN 493 as "surface analysis".
> Actually BIOEN 492 is surface analysis. BIOEN 493 is advanced surface
> analysis and it is infrequently taught, whereas BIOEN 492 is taught
> annually and has ample space for students outside of BIOE.
> Just want to make sure you got the right course.
> Best,
> Kelli Jayn Nichols
> Academic Services Director
> BIOE
>
> Jennifer
>
> **********
>
> Jennifer Payne, M.Ed.
>
> University Curriculum Procedures Analyst
>
> Office of the Registrar
>
> University of Washington
>
> http://depts.washington.edu/registra/curriculum/
>
> Phone: 206-543-5938
>
> Email: uwcr@uw.edu <mailto:uwcr@uw.edu>
>
> Box: 355850
>

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Stephen Graham
Advising Program Assistant

UNIVERSITY CAMPUSES UNDERGRADUATE PROGRAM REVIEW PROCEDURES**

CHECKLIST

Title of Proposal: Option in Nanoscience and Molecular Engineering within the Bachelor of Science in Electrical Engineering degree

Proposed by (unit name): College of Engineering

Originating Campus:

_x_ UW, Seattle

___ UW, Bothell

___ UW, Tacoma

I. **Phase I. Developed Proposal Review** (to be completed by Originating Campus' Academic Program Review body)

A. Review Completed by: (list name of program review body)

Chaired by:

10/11/13 Date proposal received by originating campus's review body

10/14/13 Date proposal sent to University Registrar

10/15/13 Date proposal posted & email sent to standard notification list

11/22/13 Date of originating campus's curriculum body approval
(Note: this date must be 15 business days or more following date of posting)

B. ___1__ Number of comments received. Attach the comments and a summary of the consideration and responses thereof : (1-2 paragraphs)

II. **Phase II. Final Proposal Review** (to be completed by FCTCP)

A. Review Completed by:
_x_ FCTCP subcommittee
___ FCTCP full council
Chaired by: William Erdly

11/18/13 Date request for review received from University Registrar
01/22/14 Date of FCTCP report

B. Review (attached)

YES NO
_x_ ___ Was notice of proposal posted on UW Website for 15 business days?
_x_ ___ Was notice of proposal sent to standard mailing list 15 business days in advance of academic program review?
_x_ ___ Were comments received by academic program review body?
_x_ ___ Was response to comments appropriate? (explain, if necessary)
___ _x_ Was final proposal reviewed by FCTCP within 14 days of receipt?

Delay during Finals/Holiday break.

_x_ ___ Was there adherence to the University Campuses Undergraduate Program Review Process? (explain, if necessary)

C. Recommendation

_X_ Forward for final approval
___ Forward to Provost because of University issues (Explain)
___ Return to campus council because of insufficient review (Explain).

**Endorsed by Faculty Senate Executive Committee, 1/10/05, modified 1/31/06; These procedures apply to new undergraduate degrees, majors, minors (and certificates) and substantive changes to same