

ECE Curriculum Committee Meeting

Tuesday, February 11th, 2025

Attending: Arabshahi, Charisopoulos, Chen, Fazel, Hauck, Kaushansky, Overly, Ratliff, Reyes, Rudell, Shepard, Swanson, Van Fossen

Unable to Attend: Bushnell, Dela Cruz, Huberman, Kirschen, Majumdar, Moritz

Minutes of February 4th, 2025: Approved

Agenda:

1. SIP/Data Science Group New Course Proposals:
 - a. EE 344: Data-Driven Modeling & Machine Learning
 - b. EE 345: Introduction to Foundations of Machine Learning
2. Review of Continuous Improvement Policies (CIPs) for BSEE and BSECE Degrees
3. Discussion of the “Pick 2” Natural Science degree requirement for BSECE Students

Meeting Slides: [Link](#)

SIP/Data Science Group New Course Proposals

The SIP/Data Science Curriculum Group presented proposals for two new 300-level machine learning courses. Two faculty members of the group, Ratliff and Charisopoulos, joined the committee to present.

- Justification and Information ([Slides](#))
- EE 344: Data-Driven Modeling & Machine Learning ([MCD](#))
- EE 345: Introduction to Foundations of Machine Learning ([MCD](#))
- A question regarding the “calculus series” prerequisite for the course, which was noted as MATH 224
 - Ratliff clarified that the intended calculus series was MATH 124, 125, and 126, and not MATH 224.
 - Calculus prerequisite should be “either MATH 126, or MATH 136”
 - MATH 136 is the honors equivalent for of MATH 126
- Members asked about the possible use of the courses as prerequisites for other 400-level machine learning courses in the curriculum.
 - Ratliff noted that only EE 345 was certain to be used as a prerequisite, which will a future revision of EE 445: Fundamentals of Optimization and Machine Learning.

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- Other courses noted in the presentation slides are just suggestions, and discussions still need to occur regarding those courses.

Motion to approve both EE 344 and EE 345, with edits to change the MATH 224 prerequisite to “either MATH 126, or MATH 136,” for an effective Autumn 2025 quarter: APPROVED – No dissents

Review of Continuous Improvement Policies (CIPs) for BSEE and BSECE Degrees

With the coming ABET Accreditation visit, the department needs to re-approve the Continuous Improvement Policy (CIP) for the BSEE degree, as well as approve the CIP for the BSECE degree, which is up for its first ABET review since being implemented in Autumn 2025.

- [BSEE CIP](#)
- [BSECE CIP](#)
- Chen previously raised the need to update the Program Educational Objectives on the documents to those most recently approved after review and updates at the end of 2024
- Rudell asked if the proposed CIP workflow would increase the workload on faculty.
 - Overly responded that the review process outlined in both documents covers the same process that has been used since the last ABET review in 2019-2020, so no increase in workload should be required

Motion to approve the presented Continuous Improvement Policies for both the BSEE and BSECE degrees, with noted need to update Program Educational Objectives to those recently updated: APPROVED – No Dissents

Discussion of the “Pick 2” Natural Science degree requirement for BSECE Students

After discussion with the ECE Undergraduate Advising team, Overly asked for the committee’s feedback on whether any changes should be made to the “Pick 2” Natural Sciences degree requirement currently in place for BSECE students. The current language for the Natural Science requirement, listed under the “General Education Courses” section of the degree requirement, is:

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Natural Sciences (NSc) (formerly known as Natural World) (45 credits):

1. Mathematics (15–21 credits), complete one of the following:
 - a. MATH 124, MATH 125, MATH 126, MATH 207 (or AMATH 351), MATH 208 (or AMATH 352)
 - b. MATH 134, MATH 135, MATH 136
2. Physics (10 credits): PHYS 121, PHYS 122 (or PHYS 141, PHYS 142)
3. Two courses from BIOL 130, BIOL 220, CHEM 142 (or CHEM 143 or CHEM 145), MATH 224, PHYS 123 (or PHYS 143)
4. Statistics (3–4 credits): one of IND E 315, or STAT 390
5. Additional NSc courses from approved list to reach 45 credits: see adviser for list of approved courses.

The section for review is item number 3, for which students must pick 2 of the courses in the provided list. As the list is currently created, students occasionally end up just one or two credits short of the 45 NSc credits required. With only a couple of approved 2-credits NSc options available in the university catalog that are offered on a regular basis, students then need to take another full 3-5 credit approved NSc course to fulfill the requirement.

- One option proposed by Advising is to increase the number from “pick 2” to “pick 3,” which would put all students over the required 45 limit, thus removing the issue for students, and their need for advising to help find a course.
 - Hauck expressed his opinion that the number should not be increased since not all students fall short, and it would require an extra course for everyone, reducing the flexibility that is desired in the degree.
- In reply to Rudell’s question on how great the problem is, Van Fossen replied that the main problem is the number of students who request assistance from Advising to help find a way to fulfill the final credits.
- No members expressed concern regarding the current “pick 2” requirement, and no changes were suggested.

Discussion concluded with an option to revisit later.