

**Dept. of Electrical and Computer Engineering**  
**Substituting Senior Honor's Thesis to replace EC464 – Senior Design II**

**Overview:**

All ECE students normally take Senior Design Project I and II (EC 463 and EC464) during the senior year. In special cases, however, a student may elect to do a year long Senior Honors Thesis. In these cases, students take EC463 in the fall semester, then substitute one semester of Senior Honors Thesis (EC467) in lieu of EC464 in the spring semester. Thesis work is performed in conjunction with EC463 in the fall semester, and senior thesis students are expected to participate in the relevant portions of EC464 as indicated by the senior design faculty. To be acceptable *as an alternative to EC464*, a Senior Thesis must be approved by the ECE Associate Chair for Undergraduate Programs, who will ensure that the proposed thesis meets the criteria indicated below.

Note: You can still pursue a research-based project that does *not* meet the requirements listed below if you *also* complete the full Senior Design sequence EC463 and EC464. In such cases, you do not have to meet the indicated criteria, and there does *not* have to be a connection between your thesis topic and your senior design project. In this latter case, the thesis is arranged directly between the student and faculty advisor without submitting the attached form. You simply register under the EC451 section of your faculty advisor.

**Criteria for Substituting EC467 for EC464:**

(The following are consistent with ABET accreditation requirements for senior capstone design)

1. The Senior Thesis must involve work in a group or team setting, such as an ECE research lab, BU engineering-based club, or a company outside BU.
2. The work must be conducted under the supervision of an ECE faculty member who will act as advisor. The thesis advisor will mentor the student on his/her research both semesters. All resources needed for the student's research (including any lab space and/or equipment) are to be supplied by the advisor in his/her lab. The advisor will participate in the scheduled fall and spring semester progress presentations, as well as in the student's final thesis defense, and will be responsible for overseeing the thesis writeup process.
3. The thesis must include both a design component and a research component. (Engineering design involves the production of something to meet a set of specifications or criteria. Design includes multiple paths to success, decision making, and iteration. Research involves the production of new knowledge or a new understanding of science and/or engineering principles.)
4. The student will be advised by a Thesis Committee consisting of the supervising ECE faculty member, a senior design faculty, and the ECE associate chair for undergraduate studies.
5. At the midpoint of each semester of thesis work (about October 15 and March 8), the student will present an oral progress report to the Thesis Committee. The committee will evaluate the presentation, inspect the student's design/research components, and provide needed feedback and suggestions about the thesis work. A successful Fall midterm evaluation with significant progress is essential to remain in the thesis program. If the presentation fails to meet expectations, then the committee will recommend that the student be dropped from senior thesis and placed in a senior design team for the remainder of the senior year.
6. EC467 awards BU Hub writing intensive and oral communication units. To be awarded these Hub units, the student is expected to meet the requirements for these units, that will be detailed at the start of the spring semester. This involves submitting partial drafts of the thesis and progress presentations to the course writing tutors by the announced deadlines, and no later than April 1.
7. The thesis will be submitted to the thesis advisor, with soft copies to the committee members, with sufficient time to be graded before the spring semester grade submission deadline. The advisor is responsible for providing feedback on drafts of the thesis, as well as assisting the preparation for the oral presentation.

Rev. 9/7/2022

**Dept. of Electrical and Computer Engineering  
Substituting Senior Honor's Thesis to replace EC464 – Senior Design II**

8. The final thesis must be presented to the Thesis Committee via an oral presentation in a public forum (e.g., ECE Day). The Committee will determine the student's grade for EC467 in lieu of EC464.
9. To petition the use of Senior Thesis in lieu of EC 467 –fill out the attached form.

For a proposed thesis to be acceptable in lieu of EC464, the attached form must be approved by the ECE Associate Chair for Undergraduate Programs in consultation with senior project faculty, the supervising faculty member, and the ECE Undergraduate Committee.

The form should be submitted by the end of the first week of classes during the fall semester of senior year.

**SENIOR THESIS PETITION FORM to SUBSTITUTE EC467 for EC464 (expand document as needed)**

Student: Please fill out this form and email to the ECE Associate Chair for Undergraduate Programs:

Note: You do not have to complete this form if you will be taking both EC464 and EC467.

1. Your name:
2. Name your ECE faculty advisor:
3. State the objective(s) of your thesis:
4. What will constitute the *design* component of your thesis?
5. List (at a basic, high-level) the specifications for the design component of your thesis:
6. Indicate what testing and evaluation you will perform to ensure that your design meets specifications?
7. What will constitute the *research* component of your thesis, e.g., describe the basic science, math, or engineering questions will you attempt to answer:

**Dept. of Electrical and Computer Engineering**  
**Substituting Senior Honor's Thesis to replace EC464 – Senior Design II**

8. Provide details about the team setting in which the thesis will be performed, including (if possible) specific individuals with whom you will work:

Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
ECE Faculty Thesis Advisor

Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
ECE Associate Chair for Undergraduate Programs

Not Approved \_\_\_\_\_ Date: \_\_\_\_\_  
Reasons: