Ph.D. students earn at least 60 post-baccalaureate credits, including at least 18 credits of dissertation work. In progressing toward this degree, the student must pass the following examinations:

1. A written departmental Graduate Study Qualifying Examination administered to all M.S. and Ph.D. students in their first year of work.
2. A comprehensive examination to be taken within two years of the qualifying examination and after completing two-thirds of their total coursework.
3. A final oral examination and defense of a dissertation based on the student’s research.

There is no foreign language requirement for the degree.

**Degree requirements--60 credits total:**

- 3 credits Research & Experimental Methods in Engineering (ENGR 610) in 1st semester
- 2 credits Seminar (ENGR 694), taken just before the comprehensive examination
- 3 credits Advanced Math (committee approved)
- 3 credits Numerical Methods (committee approved)
- 18 credits Doctoral Thesis (EELE 690)
- At least 31 additional credits (400 and graduate level) comprising:
  - 24 credits of graded coursework
  - 7 credits of either additional graded coursework or additional dissertation work (EELE 690)

Notes:

- With the approval of the student’s doctoral committee, up to 24 credits of prior coursework with grade of B or better from a previously earned master’s degree can be applied toward the required coursework of the ECE PhD. With committee approval, master’s degree courses can be used to satisfy the Advanced Math and Numerical Methods course requirements.
- Applicable coursework taken beyond the master’s degree may include no more than 9 credits at the 400-level.
- All PhD credits no more than ten (10) years old at time of graduation (this limit does not apply to courses counted from a previously earned master’s degree).
- A minimum of 30 credits applicable to the degree must be taken at MSU (i.e., up to 30 credits can be transfer credits, if acceptable to the student’s committee).
- Regardless of how many course credits are applied from a previously earned master's degree, the PhD program of study must include at least 12 credits of courses in the major area taken at Montana State University.
- ≤ 6 credits Independent Study (EELE 592)
- ≤ 9 credits pass/fail (excluding dissertation)
- ≤ 9 credits challenged
- No credits of 488, 489, 490, 492, 575, or 589 are allowed

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<td>Advanced Math Course (committee approved)</td>
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