

The Ph.D. Requirements for Information-Communication-Decision, Bio and Power (ICDBP) Systems Group Students Holders of M.S. Degree

Revised December 28, 2012

The following is the ICDBP (called previously Control and Communication) **Systems Group** policy for Ph.D. students starting with an M.S. degree and supersedes previous policy.

1. Students must take at least 18 credits of appropriate graduate course work. Of these a maximum of 3 credits may be ECE 6099(320) (old numbers in parentheses). Any further ECE 6099(320) credits or credits of the three basic courses (listed below) will certainly be shown on the Plan of Study, but are additional to the eighteen required. With the *approval of the student's Advisory Committee*, a maximum of 6 credits can be GRAD 6950(495).

2. The foreign language/related area can be satisfied in two ways: (i) by 6 credits of graduate work in any single technical area (such as Computer Science, Statistics, Physics, Mathematics, another Engineering field, or non-Systems ECE), or (ii) by *any* foreign language. If the latter is chosen, then rather than 18 credits of course work in item 1, the student must take 24 credits, with 6 credits as specified in (i) above.

3. The student's Plan of Study will therefore show either the 18 credits according to item 1, *plus* 2 related-area graduate courses (6 credits) according to item 2(i), with the option of a foreign language.

4. ECE 5101(301), 6111(313) and 6122(316) are introductory basic graduate courses, and credits from these should not normally count toward the Ph.D. (that is, to the 18- or 24-credit totals above). In special circumstances a Systems Group Ph.D. student's M.S. background may be considered to have little in common with the Systems Group M.S., but nonetheless to be a significant contribution to the student's Ph.D. research. In such cases the student's Advisory Committee may decide that some or all of these courses may be counted toward Ph.D. totals. Such cases are assumed to be unusual.

5. The seminar ECE 6094(311) has to be taken for credit at least twice by giving a talk, e.g., on a conference paper to be presented by the student. For full-time students, attendance of this seminar is *required* every semester.

6. A minimum of 15 credits of GRAD 6950(495) (Ph.D. dissertation research), including the possible 6 credits of GRAD 6950(495) in item 1.

7. The student's Plan of Study should be completed according to the above requirements and approved before the Ph.D. General Exam. The student's Advisory Committee has the final word on all Plan of Study matters. The requirements of items 1 and 6 satisfy the minimum UConn requirement of 20 credits.

The Ph.D. General Exam for ICD Systems track students consists of:

Required courses: ECE 5101(301), 6111(313), 6122(316), 6439(362) and one of the following {6121(314), 6123(317), 6099(320), 6151(361), 6437(329)};

Elective courses: 2 additional courses, in agreement with the Advisory Committee.

The Ph.D. General Exam for students in Bio Systems track consists of:

Required courses: ECE 5101(301), 6111(313), 6122(316), 6123(317);

Elective courses: 3 additional (Bio) courses, in agreement with the Advisory Committee.

The Ph.D. General Exam for students in Power Systems track consists of 7 courses as follows:

Required courses: 3 or 4 out of the ICD track required courses;

Elective courses: 4 or 3 out of ECE6437, 6095 Renewable energy power conversion, 6095 Transients in power systems, 6095 Photovoltaic power conversion, Power electronics, Modern power systems, in agreement with the Advisory Committee.

The Ph.D. exam has a written part on the above courses and an oral part at the discretion of the instructors who provided the written part problems for these courses. Passing the Ph.D. exam requires an average of 6/10 with no grade below 5/10 in any of the written parts and the signatures of the advising committee and of each instructor who provided problems for the written part.

A PhD dissertation Prospectus should be submitted 6 months before the defense.

Each student must satisfy the following minimum research publications requirements: (i) by the time of the prospectus: 2 CP (Conference Proceedings) full papers accepted; (ii) by the time of the Ph.D. defense: 2 RJ (Research Journal) papers accepted, and (iii) all with primary authorship by the student.