

## ECSE Master of Engineering (MEng) Plan of Study (POS)

1. You must complete and submit the latest version of your POS each semester.
2. POS submitted during your last semester (term in which you will graduate) will be used for your Official Registrar Degree Transcript. You must ensure you have met all course requirements as listed below for graduation.
3. POS Submission deadline: November 1<sup>st</sup> (Fall Semester) and March 1<sup>st</sup> (Spring Semester).
4. POS must be submitted for approval to the Graduate Program Secretary Priscilla Magilligan in JEC-6012 or by e-mail: [pris@ecse.rpi.edu](mailto:pris@ecse.rpi.edu)
5. The ECSE Graduate Program Director will review and sign the POS, if approved. If changes are necessary prior to approval, you will be contacted by e-mail.
6. Follow the instructions below for filling the POS Worksheet. Use the "Sample POS Worksheet" below as a guide for filling your worksheet.
7. If you need any assistance with POS, please meet with Priscilla Magilligan in JEC-6012. You can also reach her by e-mail: [pris@ecse.rpi.edu](mailto:pris@ecse.rpi.edu) or by phone: 518-276-6225.

### Instructions for Filling POS Worksheet:

**Step 1.** Review the course requirements below for MEng degree.

**Step 2.** Review the course descriptions for courses of interest to you in the RPI Course Catalog at <http://catalog.rpi.edu/>.

**Step 3.** Review the list of courses offered during the last academic year (last two semesters) in Class-Hour Schedules at [rpinfo.rpi.edu](http://rpinfo.rpi.edu) or at [sis.rpi.edu](http://sis.rpi.edu)

**Step 4.** Review the list of courses offered during the current academic year (current semester and next semester) in Class-Hour Schedules at [rpinfo.rpi.edu](http://rpinfo.rpi.edu) or at [sis.rpi.edu](http://sis.rpi.edu)

For any questions regarding course related information, please contact the Instructor (listed in class hour schedules) by e-mail.

**Step 5.** Fill the POS worksheet with the list of courses of interest to you that are offered during the current semester or during the next 2 semesters. The future course offerings can be guessed based on past academic year course offerings. *While filling the POS, Do not use CRN numbers to designate courses; use, instead, the standard "DEPT-6xyz or DEPT-4xyz" designation, e.g. ECSE-6510.* The electronic copy of the POS Worksheet can be found here: <http://www.ecse.rpi.edu/academics/masters/files.htm>. If you decide to print and fill a paper copy (hard copy), use only black pen and capital letters as shown in the Example POS worksheet.

**Step 6.** Do not leave any information blank, except for signatures, at this point. Don't forget to check in the Official POS whether you have a New or Revised Plan; give the Date of Previous Plan, if revised.  
**Step 7.** If you have an advisor assigned, meet with your advisor for POS review, approval, signature and date. MEng students typically need no signature before submitting the form in JEC 6012.

### Course Requirements for ECSE MEng:

1. Full-time students, including research assistants (RAs), must register for a minimum of 12 to a maximum of 15 credit hours each semester until completion of the master's degree. **Full-Time Teaching Assistants (TAs) are a special exception:** they may register for a minimum of 9 to a maximum of 15 credit hours, each semester. A FULL-TIME student must complete the degree within 2.5 YEARS; a PART-TIME student must complete it within 3 YEARS. We recommend that, as a Part-Time student, you take 2 courses (6 credits minimum) per Academic Semester (Fall and Spring).
2. Total number of credits needed for graduation: 30

3. You may take courses at both 4000 and 6000 levels. Some of the courses can be outside the ECSE department. Some of the courses must be from your technical concentration area. The last row in the POS worksheet provides the required number credits for each category. Suggestions for selecting courses in different categories are given below.
4. Select 7 ECSE courses, 2 Non-ECSE courses and 1 MATH course. Up to a total of 6 transfer credits are allowed. The inclusion of eligible transfer credits will reduce the above number of courses as discussed below.
5. At least 5 ECSE courses must be at 6000 level.
6. For Technical Concentration Courses, any 3 COURSES in 1 of these designated areas are required: Communications, *Information, and Signals & Systems*; *Computer Engineering, Hardware & Architecture*; *Computer Networking*; Control, Robotics, & Automation; Energy Sources & Systems; *Image Science: Computer Vision, Image Processing, & Geographic Information Science*; *Microelectronics, Photonics, VLSI, & Mixed Signal Design*; *Plasma Science & Electromagnetics*. Other, "custom" areas of specialization are possible such as Power Electronics and Microelectronics or VLSI Design and Microelectronics, Computer Networking and Communication, etc. At least 2 courses in the Concentration area must be ECSE 6000 level courses.
7. A non-technically related course is any non-ECSE course in a field that complements the student's technical expertise with theoretical concepts and/or understanding of the broader social context of technology. This could include courses from areas such as Communications, Psychology, Cognitive Science, Economics, or Writing.
8. You may include no more than 6 transfer credits. You must complete the associated Transfer-Credit Approval Form from the Registrar (available for download at <https://info.rpi.edu/graduate-academics/forms-publications-policies> and identify the closest equivalent RPI course at either 4000 or 6000 level. Submit the completed Transfer-Credit Approval Form to JEC-6012 for final approval. Please note: 1000 or 2000-level courses cannot be transferred.
9. In addition to regular classroom courses, you may take 1 course as either ***ECSE Readings (ECSE-6940)*** or ***Independent Study (ECSE-4940)***. For this course, you must identify a technical topic of interest and find a professor with expertise in the subject area. Taking on an Independent Study student is solely at the instructor's discretion. So you should ask the instructor first if he/she is willing to serve as the advisor for the course. Once you find an advisor willing to offer the course, you must complete an [Independent Study Form](#) (available from the Registrar) and have the instructor sign the form. Include the title of your independent study course in parentheses on your POS and the POS worksheet. No more than 3 credits of Independent Study may be included in the POS.
10. **For Mathematics (Math) Elective**, please select 1 of the following courses: **MATH-4100**: *Linear Algebra*; **MATH-4300**: *Intro to Complex Variables: Theory and Applications*; **MATH-4500**: *Methods of Partial Differential Equations of Mathematical Physics*; **MATH-4600**: *Advanced Calculus*; **MATH-4700**: *Foundations of Applied Mathematics*; **MATH-4800**: *Numerical Computing*; **MATH-4820**: *Intro to Numerical Methods for Differential Equations*; or a related advanced 6000-level MATH course. If you choose any course not listed above, you must obtain approval from the Master's Program Director prior to registration (Please inform Ms. Priscilla Magilligan in JEC-6012 for approval).

**Sample ECSE MEng POS Worksheet:**

Printed Name	RIN	Phone Number	Email Address
John Doe	000-00-0001	(518) 555-1212	<u>doej@rpi.edu</u>

Departmental Prefix	Course Number	Total Credit Hrs	6000-Level Credits	ECSE, Credits	Tech. Concentration Credits	Non Tech Related Credits	Transfer Credits	Indep. Study Credits	Math Elective	Year	Term* (F/S/U)
ECSE	4220	3		3			3			—	—
ECSE	6700	3	3	3						11	F
ECSE	6240	3	3	3						11	F
ECSE	6050	3	3	3	3					11	F
MGMT	6140	3	3			3				11	F
ECSE	6940	3	3	3				3		12	S
ECSE	6690	3	3	3	3					12	S
ECSE	6680	3	3	3	3					12	S
MGMT	6180	3	3			3				12	S
MATH	4800	4							4	12	U
<b>TOTAL (fill in):</b>		<b>31</b>	<b>24</b>	<b>21</b>	<b>9</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>4</b>		
<b>REQUIREMENT:</b>		<b>≥ 30</b>	<b>≥ 18</b>	<b>≥ 15</b>	<b>=9</b>	<b>= 6</b>	<b>≤ 6</b>	<b>≤ 3</b>	<b>3-4</b>		

\*“F” = Fall, “S” = Spring, “U” = Summer.

Course Number	Course Name (Indicate Tech. Conc. in Bold font)
ECSE-4220	VLSI Design
ECSE-6700	Computer Architecture Prototyping with FPGA's
ECSE-6240	VLSI Fabrication Technology
<b>ECSE-6050</b>	<b>Advanced Electronics Circuits (Tech. Conc. #1)</b>
ECSE-6940	Readings in ECSE (“Finite-State Machine Design”)
<b>ECSE-6690</b>	<b>VLSI Design Automation (Tech. Conc. #2)</b>
<b>ECSE-6680</b>	<b>Advanced VLSI Design (Tech. Conc. #3)</b>
MGMT-6140	Information Systems for Management
MGMT-6180	Strategic Information Systems Management
MATH-4800	Numerical Computing

**ECSE Master of Engineering Plan of Study Worksheet**

Printed Name	RIN	Phone Number	Email Address

Departmental Prefix	Course Number	Total Credit Hrs	6000-Level Credits	ECSE Credits	Tech. Concentration Credits	Non-Tech Related Credits	Transfer Credits	Indep. Study Credits	Math Elective	Year	Term* (F/S/U)
<b>TOTAL Credits :</b>											
<b>REQUIREMENT:</b>		<b>≥ 30</b>	<b>≥ 18</b>	<b>≥ 15</b>	<b>= 9</b>	<b>= 6</b>	<b>≤ 6</b>	<b>≤ 3</b>	<b>3-4</b>		

\*"F" = Fall, "S" = Spring, "U" = Summer.

Course Number	Course Name (Tech. Conc. in bold; see Example.)

Pre-authorization Signature (Master’s Program Supervisor, if Applicable):

Date:

Note, you must still fill out and submit the official Institute POS Form available on-line; otherwise, you have not officially filed a Plan! Filing of the POS occurs in JEC-6012.