

February 23, 2005

Dr. Scott Wills  
Chair, Institute Undergraduate Curriculum Committee  
ECE – 0250

The School of Electrical and Computer Engineering requests Institute Undergraduate Curriculum Committee approval of the following items, all of which have been approved by the ECE faculty.

1. Modification of the degree requirements for the Bachelor of Science in Electrical Engineering. There is no net change in the number of credit hours required for the degree.
  - a. **Delete** LCC 3401 (2 hours)
  - b. **Reduce** Engineering Electives from 9 hours to 8 hours
  - c. **Increase** ECE Electives from 20 hours to 23 hours
  - d. **Modify** the Social Sciences requirement to read as follows:

Social Sciences, twelve hours: must include HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200; must include ECON 2100, ECON 2105, ECON 2106, *or a course satisfying the Global Economics requirement of the International Plan degree designation*; refer to pages 31-32 for a list of approved courses to satisfy the remaining hours.
  - e. **Modify** the Engineering Electives requirement to read as follows:

Engineering electives, eight hours, must include (a) thermodynamics: AE 3450, ME 3322, or ME 3720; (b) probability/statistics: CEE/ISYE/MATH 3770 or ISYE 2027; and (c) AE 2120, BMED 3400, CEE 2020, *COE 2001*, ME 2211, MSE 2001, or a course at the 3000-level or above in the College of Engineering, outside ECE. All other courses must be approved by the School.
  - f. **Blanket substitution** of 2 credit hours of approved electives for LCC 3401 for students graduating under degree requirements from earlier curriculum years.
  - g. **Blanket substitution** of 1 credit hour of approved electives for 1 credit hour of engineering electives for students graduating under degree requirements from earlier curriculum years.

NOTE: Modify suggested 8-semester schedule as follows:

Semester 3: delete LCC 3401, add 3 hours Humanities Elective, 18 total hours

Semester 8: delete Humanities Elective, change ECE Elective to 7 hrs, change Engineering Elective to 2 hrs, 15 total hours

2. Modification of the degree requirements for the Bachelor of Science in Computer Engineering. There is no net change in the number of credit hours required for the degree.
  - a. **Delete** LCC 3401 (2 hours)
  - b. **Increase** Approved Electives from 6 hours to 9 hours
  - c. **Decrease** ECE/CS Electives from 14 hours to 13 hours
  - d. **Modify** the Social Sciences requirement to read as follows:

Social Sciences, twelve hours: must include HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200; must include ECON 2100, ECON 2105, ECON 2106, *or a course satisfying the Global Economics requirement of the International Plan degree designation*; refer to pages 31-32 for a list of approved courses to satisfy the remaining hours.
  - e. **Blanket substitution** of 2 credit hours of approved electives for LCC 3401 for students graduating under degree requirements from earlier curriculum years.

NOTE: Modify suggested 8-semester schedule as follows:

Semester 3: delete LCC 3401, add 3 hours Humanities Elective, 18 total hours

Semester 6: delete Humanities Elective, add 3 hours Approved Elective

Semester 7: change ECE/CS electives to 3 hrs, 15 total hours

3. Modify course prerequisites, as follows:
  - a. ECE 2031 – CS 1322 and ECE 2030
  - b. ECE 4000 – **senior standing** and ECE 3040 (**concurrency allowed**) and (ECON 2100 or ECON 2105 or ECON 2106) and (CEE 3770 or ISYE 3770 or MATH 3770 or ISYE 2027)
4. Allow students to pursue the International Plan degree designation in conjunction with satisfaction of the BSEE or BSCmpE degree requirements. The School will not impose any additional restrictions on pursuit of the degree designator.

Students can satisfy the course requirements for the degree designation within the existing credit hours for the degree through appropriate selection of electives. For example:

- a. Global economics, international relations, and area-focused courses – social sciences electives
- b. Culminating course – approved electives or incorporated into other coursework
- c. Language courses – humanities electives (6 hours) and, if needed, approved electives (6 hours)

Two sample 8-semester schedules are attached. The EE example illustrates a “junior year abroad” at Georgia Tech Lorraine. The CmpE example illustrates one semester of study at a non-U.S. university plus one term of work/internship/research. These are examples only; students will be allowed to complete any international experience option allowed under the Institute requirements.

Thank you for your consideration of this request.

Joseph L.A. Hughes  
Associate Chair for Academic Operations

ENDORSED:

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Dean, College of Engineering

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Provost

## Bachelor of Science in Electrical Engineering with “International Plan” designator

### Example 8-Semester Schedule (Junior Year at Georgia Tech Lorraine)

#### Freshman Year

3-2-4 MATH 1501 Calculus I	3-2-4 MATH 1502 Calculus II
3-3-4 CHEM 1310 General Chemistry	3-3-4 PHYS 2211 Introductory Physics I
2-3-3 CS 1371 Computing for Engrs	2-3-3 CS 1322 Object-Oriented Progr
3-0-3 ENGL 1101 English Composition I	3-0-3 ENGL 1102 English Composition II
<u>2-0-2</u> HPS 10xx Wellness elective	<u>H 3-0-3</u> FREN 2001 French Culture I
<b>13-8-16</b>	<b>14-8-17</b>

#### Sophomore Year

3-3-4 ECE 2025 Intro Signal Processing	1-3-2 ECE 2031 Digital Design Lab
3-0-3 ECE 2030 Intro Computer Engr	3-0-3 ECE 2040 Circuit Analysis
3-2-4 MATH 2401 Calculus III	3-2-4 MATH 2403 Differential Equations
3-3-4 PHYS 2212 Introductory Physics II	S 3-0-3 History/Government
<u>H 3-0-3</u> FREN 2002 French Culture II	S 3-0-3 Global Econ or International Relations
<b>15-8-18</b>	<u>3-0-3</u> Science elective
	<b>16-5-18</b>

#### Junior Year (Georgia Tech Lorraine; some courses taken at Supelec)

3-0-3 ECE 3025 Electromagnetics	1-3-2 ECE 3041 Instrument & Circuits Lab
4-0-4 ECE 3040 Microelectronic Circuits	3-0-3 EE Breadth elective
3-0-3 Engineering elective (thermodynamics)	3-0-3 EE Breadth elective
S 3-0-3 Global Econ or International Relations	3-0-3 Engineering elective (probability/stat)
<u>A 3-0-3</u> Approved Elective	2-0-2 Engineering elective (COE 2001)
<b>16-0-16</b>	<u>S 3-0-3</u> Area-focused Int'l Plan course
	<b>15-3-16</b>

#### Senior Year

1-3-2 ECE 3042 Microelectronic Ckts Lab	1-6-3 ECE 4006 Major Design Project
3-0-3 EE Breadth elective	3-3-4 ECE elective
2-3-3 ECE 4000 Project Engr & Prof Pract	3-0-3 ECE elective
3-3-4 ECE elective	A 3-0-3 Culminating Int'l Plan course
<u>A 3-0-3</u> Approved Elective	<u>H 3-0-3</u> Humanities elective (ethics)
<b>12-9-15</b>	<b>13-9-16</b>

#### Total Hours: 132

Humanities:	9 hours (3 applied to approved electives)
Social Sci:	12 hours
Appr Elec:	12 hours (including 3 excess humanities hours)

**NOTES:** Actual elective credit hours may differ from those shown in this example.

Assumes prior credit for freshman language courses. Flexibility in course selection and scheduling depends heavily on AP credit and/or prior language experience.

# Bachelor of Science in Computer Engineering with “International Plan” designator

## Example 8-Semester Schedule

### Freshman Year

3-2-4 MATH 1501 Calculus I	3-0-3 ECE 2030 Intro Computer Engr
3-3-4 CHEM 1310 General Chemistry	3-2-4 MATH 1502 Calculus II
2-3-3 CS 1371 Computing for Engrs	3-3-4 PHYS 2211 Introductory Physics I
3-0-3 ENGL 1101 English Composition I	2-3-3 CS 1322 Object-Oriented Progr
<u>2-0-2</u> HPS 10xx Wellness elective	<u>3-0-3</u> ENGL 1102 English Composition II
<b>13-8-16</b>	<b>14-8-17</b>

### Sophomore Year

3-3-4 ECE 2025 Intro Signal Processing	3-0-3 ECE 2040 Circuit Analysis
1-3-2 ECE 2031 Digital Design Lab	3-3-4 ECE 3035 Comp Mech for Proc Sys
3-2-4 MATH 2401 Calculus III	3-2-4 MATH 2403 Differential Equations
3-3-4 PHYS 2212 Introductory Physics II	3-0-3 Science elective
<u>H 3-0-3</u> Language I (2xxx)	<u>H 3-0-3</u> Language II (2xxx)
<b>13-11-17</b>	<b>15-5-17</b>

### Junior Year

4-0-4 ECE 3040 Microelectronic Circuits	A 3-0-3 Approved Elective
1-3-2 ECE 3041 Instrument & Circuits Lab	3-0-3 Engineering elective (probability/stat)
3-3-4 ECE 3055 Comp Arch & Oper Sys	3-0-3 Engineering elective (thermodynamics)
S 3-0-3 History/Government	S 3-0-3 Global Econ or International Relations
<u>S 3-0-3</u> Global Econ or International Relations	<u>S 3-0-3</u> Area-focused Int'l Plan course
<b>14-6-16</b>	<b>15-0-15</b>

(term at non-U.S. university)

**Summer term: international work, internship, or research experience.**

### Senior Year

3-0-3 ECE 3025 Electromagnetics	1-6-3 ECE 4006 Major Design Project
1-3-2 ECE 3042 Microelectronic Ckts Lab	3-3-4 ECE/CS elective
3-3-4 ECE 3060 VLSI & Adv Dig Des	3-0-3 ECE/CS elective
2-3-3 ECE 4000 Project Engr & Prof Pract	A 3-0-3 Culminating Int'l Plan course
3-0-3 Discrete Math elective	<u>3-0-3</u> CS 4001 Comp, Soc, & Prof (ethics)
<u>A 3-0-3</u> Approved Elective	<b>13-9-16</b>
<b>15-9-18</b>	

**Total Hours:** 132

Humanities:	6 hours
Social Sci:	12 hours
Appr Elec:	9 hours

**NOTES:** Actual elective credit hours may differ from those shown in this example.

Assumes prior credit for freshman language courses. Flexibility in course selection and scheduling depends heavily on AP credit and/or prior language experience.