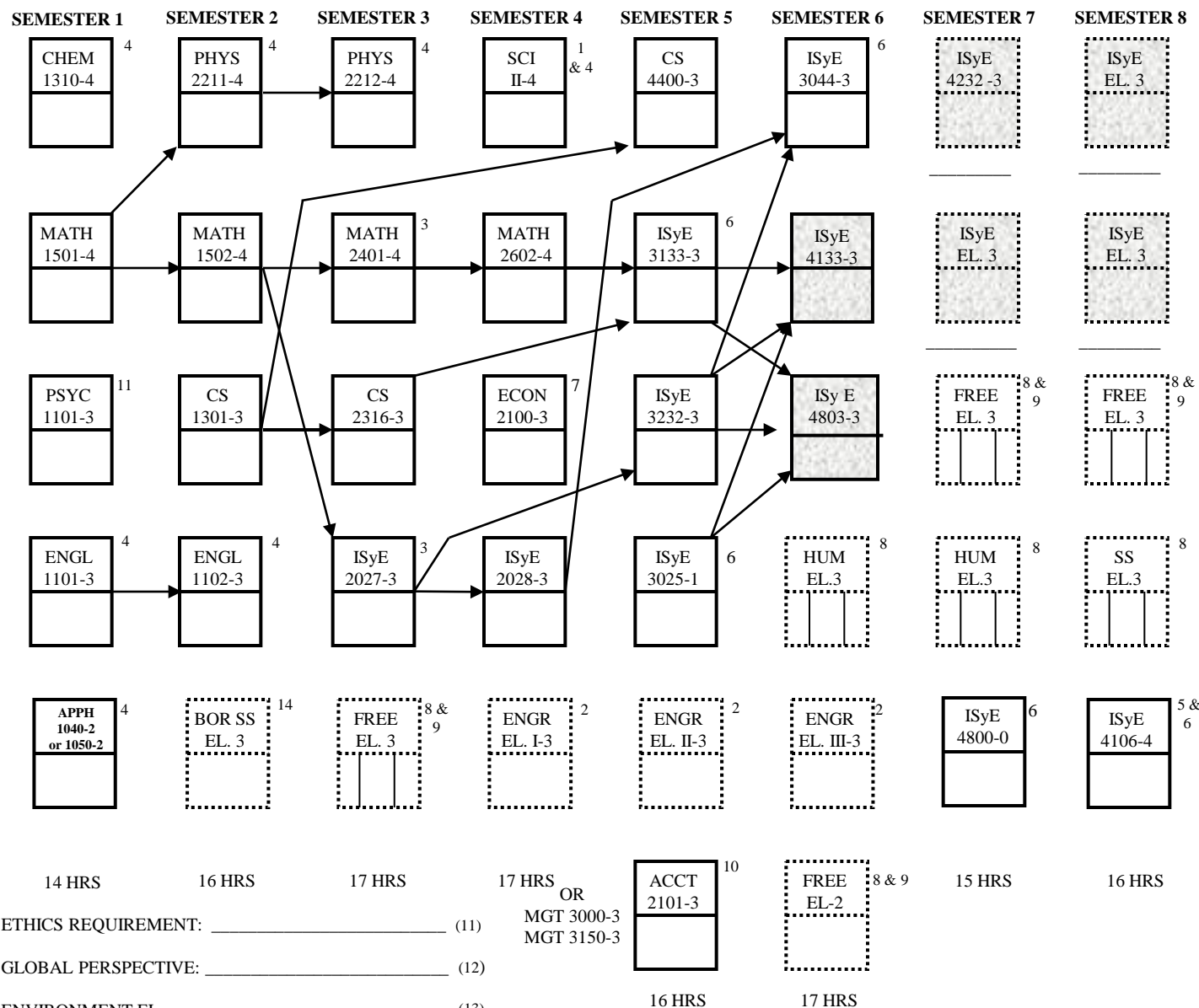


# OPERATIONS RESEARCH CONCENTRATION

## BSIE PROGRAM for the 2013-2014 Year



**TOTAL ISYE CREDIT HOURS: 128**

(1) Science Electives: Biology 1510 or 1520, EAS 1600 or 1601 or 2600. Only one EAS allowed.

(2) 9 hours Engineering Electives (Non-ISYE) are required from approved list: <http://www.isye.gatech.edu/academics/undergraduate/courses/>

(3) MATH 2401 is Co-requisite or Pre-requisite for ISYE 2027.

(4) APPh, English, Lab Sciences and Physics must be taken prior to your Junior year.

(5) You must be within 2 semesters of graduation to register for Senior Design. (Summers Excluded) and complete 4 of 6 Concentration courses before Senior Design.

(6) ISYE 3025, 3133, 3044 & 4800 must be Completed prior to Senior Design.

(7) (ECON 2100 or 2101), or (2105 or 2106) (Credit cannot be allowed for both ECON 2100 and 2101, and if you take 2100 or 2101 you will NOT receive credit for either 2105 or 2106)

(8) Only 9 hours allowed Pass/Fail within Social Sciences, Humanities and Free Electives. No other courses allowed Pass/Fail. \*<http://www.catalog.gatech.edu/genregulations/passfail.php>

(9) Suggested Free Elective: LCC 3403, Technical Communication, is highly recommended.

(10) Engineering & Management Minors must take MGT 3150 or MGT 4015.

(11) See here for Ethics Requirement: <http://www.catalog.gatech.edu/students/ugrad/core/ethics.php>

(12) See here for Global Perspective requirement: <http://www.catalog.gatech.edu/students/ugrad/core/gp.php>

(13) See here for Environmental Elective: <http://www.isye.gatech.edu/academics/undergraduate/courses>

(14) Board of Regents Requirement: Choose one: HIST 2111, HIST 2112, POL 1101, INTA 1200 or PUBP 3000. Credit is not given for both POL 1101 & INTA 1200. Must be taken letter grade.

Concentration Name	Concentration DEPTH classes	Concentration BREADTH classes
(A) Supply Chain Engineering	A1. 3103 Logistics A2. 3104 Manufacturing A3. One of: a. 4111 Adv Logistics* b. 4803 Adv Manufacturing*	Three courses take from the [DEPTH] of at least two concentrations (B), (C), and (D)
(B) Quality and Statistics	B1. 3039 Quality Control B2. 4031 Regression & Forecasting B3. One of: a. CS 4641 Machine Learning b. Math 4262	Three courses take from the [DEPTH] of at least two concentrations (A), (C), and (D)
(C) Economic and Financial Systems	C1. 4301 Supply Chain Economics C2. 4311 Capital Investment Analysis C3. One of: a. Econ 3150 Econ & Fin Mod b. Mgt 3078 Fin & Investments c. Econ 4340 Industrial Organization d. Econ 4350 Intl Econ	Three courses take from the [DEPTH] of at least two concentrations (A), (B), and (D)
(D) Operations Research	D1. 4133 Adv Optimization* D2. 4803 Adv Simulation** D3. 4232 Adv Stochastics*	Three courses take from the [DEPTH] of at least two concentrations (A), (B), and (C)
(E) General ISyE	One of: a. 4111 Adv Logistics* b. 4803 Adv Manufacturing* c. 4311 Capital Investment Analysis* d. 4133 Adv Optimization* e. 4232 Adv Stochastics*	E1. 3103 Logistics E2. 3104 Manufacturing E3. 3039 Quality Control E4. 4031 Reg & Forecast* E5. 4301 Supply Chain Economics

<p><u>ISyE Requirements (all concentrations)</u>  ISyE 2027 Probability  ISyE 2028 Statistics  ISyE 3025 Eng Economy  ISyE 3044 Simulation  ISyE 3133 Eng Optimization  ISyE 3232 Stoch Mfg &amp; Svc Sys  ISyE 4106 Senior Design  ISyE 4800 Senior Design Pre-planning</p>
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**\* Graduate Course Option: Please see: <http://www.catalog.gatech.edu/students/ugrad/degrees/gradcourse.php>**

Undergraduate students taking graduate-level courses and NOT applying course(s) toward Masters must have a cumulative GPA of 3.0. Allowable substitutions are: ISyE 6203 for Advanced Logistics, ISyE 6201 or ISyE 6202 for Advanced Manufacturing, ISyE 6669 for Advanced Optimization, ISyE 6644 for Advanced Simulation, ISyE 6650 for Advanced Stochastics, ISyE 6225 for Advanced EDA, and ISyE 6414 for Regression and Forecasting. Math 3012 Applied Combinatorics as the third OR Concentration depth class. The Associate Chair for Undergraduate Programs may allow additional substitutions as appropriate.

**ISyE 4009** Human-Integrated system may be used as an Breadth Elective in any concentration. We do not offer the course but students can take the course elsewhere to transfer back.