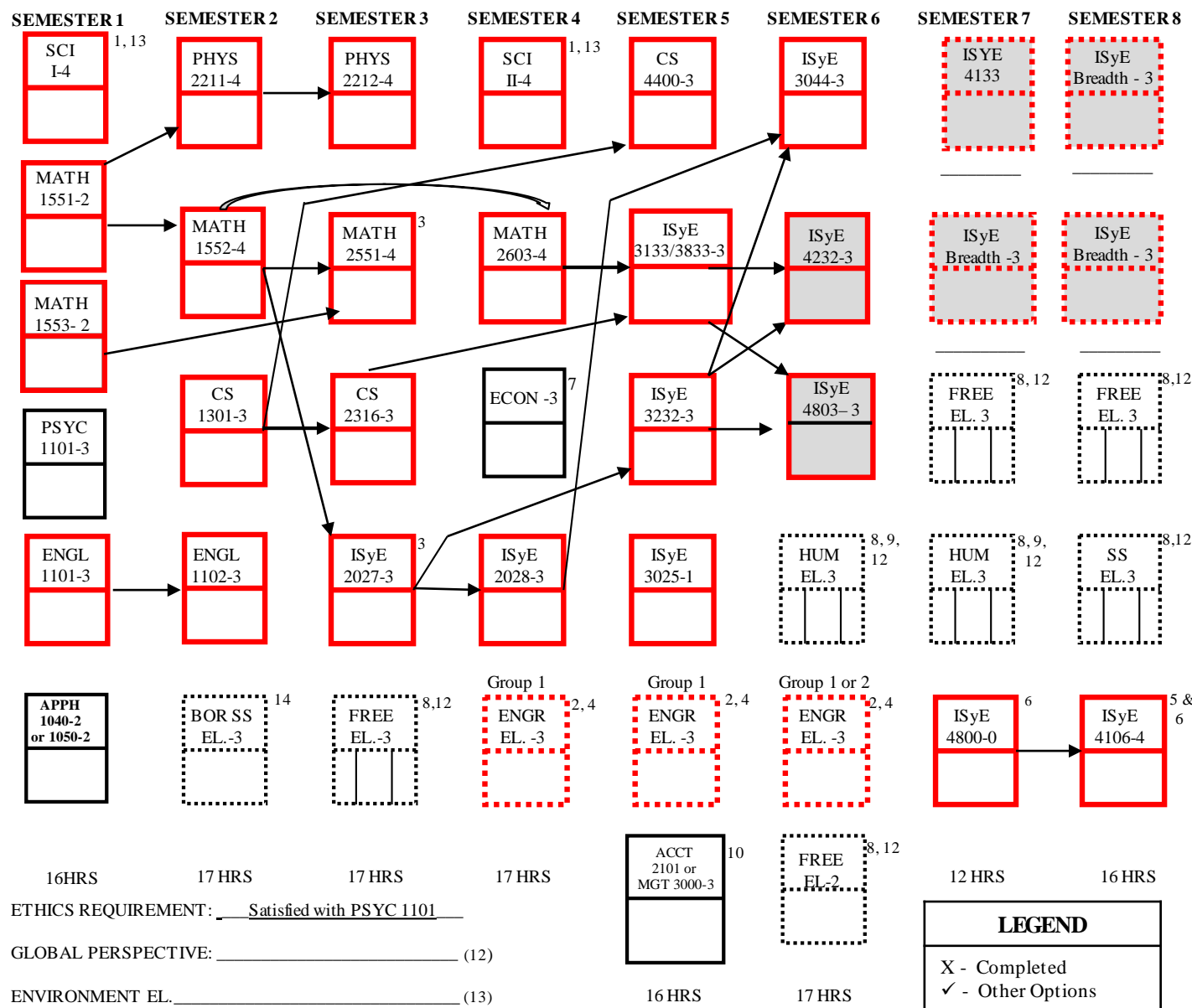


OPERATIONS RESEARCH CONCENTRATION

BSIE PROGRAM for the 2015-2016 Year



16HRS
ETHICS REQUIREMENT: Satisfied with PSYC 1101
GLOBAL PERSPECTIVE: _____ (12)
ENVIRONMENT EL. _____ (13)
BOR SOCIAL SCIENCE EL. Satisfied with BOR SS (14)

TOTAL ISYE CREDIT HOURS: 128
MINIMUM IE GPA ≥ 2.0

LEGEND	
X	- Completed
✓	- Other Options
F15	- Fall Semester
SP16	- Spring Semester

- (1) Science Electives: CHEM 1310 (encouraged), BIOL 1510, EAS 1600 or 1601 or 2600. Only one EAS allowed. Advisor approval required to take BIOL 1520.
- (2) 9 hours Engineering Electives (Non-ISyE) are required from approved list: <http://www.isye.gatech.edu/academics/undergraduate/courses/>. At least 5 credits from group 1.
- (3) MATH 2551 is Co-requisite or Pre-requisite for ISYE 2027.
- (4) Students are discouraged from taking two CX courses as engineering electives.
- (5) You must be within 2 semesters of graduation to register for Senior Design. (Summers Excluded).
- (6) All ISYE required courses (ISYE 2027, 2028, 3025, 3833/3133, 3044, 3232, ISYE 4800) and a minimum of 4 of the 6 concentration courses must be completed prior to Senior Design.
- (7) ECON 2100 or 2101 (has global perspective component) 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 Science (not BOR or PSYC), Humanities and Free Electives. No other courses allowed Pass/Fail.
- (9) 6 hours Humanities electives required: <http://www.catalog.gatech.edu/students/ugrad/core/corec.php>
- (10) Technology and Management Minors must take MGT 3000. This course is allowed to satisfy both the ISyE management requirement and minor requirement. Credit not given for ACCT 2101 and MGT 3000.
- (12) See here for Global Perspective requirement: <http://www.catalog.gatech.edu/students/ugrad/core/gp.php>
- (13) Environmental Electives include: BIO 1510, BIO 1520, EAS 1600, EAS 1601, EAS 2600, ISYE 4803 (Energy and Environmental Analysis, offered only in fall semester), CEE 4300. Additional courses may be approved by ISyE Academic Department.
- (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 One of: a. CS 4641 Machine Learning* b. Math 4262* c. CX 4242 or 4240 or 4210	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. Choose one of: a. Econ 3150 Econ & Fin Mod* b. Mgt 3078 Fin & Investments c. Econ 4340 Ind. 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 Manuf/ Adv Simul.** 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

Students must complete the prerequisites below in order to take Senior Design (ISYE 4106):

ISyE Required Courses (all concentrations):

ISyE 2027 Probability
ISyE 2028 Statistics
ISyE 3025 Eng Economy
ISyE 3044 Simulation
ISyE 3133 Eng Optimization
ISyE 3232 Stoch Mfg & Svc Sys
ISyE 4800 Senior Design Prep

A minimum of 4 of the 6 required concentration courses from the declared concentration.

A minimum of 5 of the 6 required concentration courses must have an ISYE header. For example, students who take MGT 3078 are not allowed to take CS 4641 or ECON 3150 as an additional concentration course.

* **Course requires prerequisite not required in the ISyE curriculum.** Please plan ahead and look to prerequisites listed on Oscar.gatech.edu if you plan to take one of these courses.

** **Graduate Course Option: Please see: <http://www.catalog.gatech.edu/students/ugrad/degrees/gradcourse.php>**

Undergraduate students seeking to take graduate-level courses must have a cumulative GPA of 3.0, receive approval for course substitution from the Associate Chair for Undergraduate Programs, and obtain a registration permit (subject to availability of seats in the course) from the Director of Student Services. Applications are found here <http://www.isye.gatech.edu/sites/default/files/documents/undergraduate/undergraduate-register-for-graduate-course-form.pdf>.

Additional ISYE 4803 (Special Topics) may count as an alternative breadth or depth course for a specific concentration. Please see Oscar and the registration page of the ISyE website for more information. **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.