Welcome to ISyE!

Introduction to Industrial Engineering
Fall 2017

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Are You an Industrial Engineer at Heart?

Have you seen these situations before?

www.usi.edu

pardonmeforasking.blogspot.com
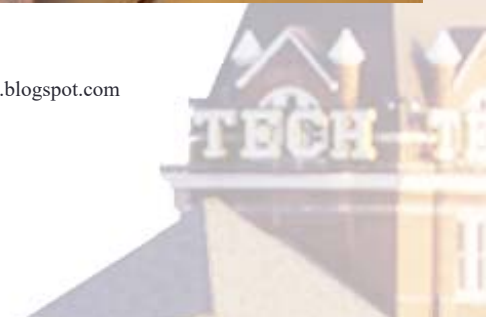
What is Industrial Engineering?

- Institute of Industrial and Systems Engineers
  - Design, improvement and installation of integrated systems of people, materials, information, equipment and energy
  - Draws on the mathematical, physical, and social sciences

- College Board
  - IE majors learn how to improve the way factories, hospitals and other organizations run using equipment, materials and people

- IE Application Examples
  - Supply Chain, Manufacturing: produce and distribute products worldwide
  - Health Systems Streamlining an operating room
  - Retails: merchandizing, pricing,
  - Energy supply, store, and pricing

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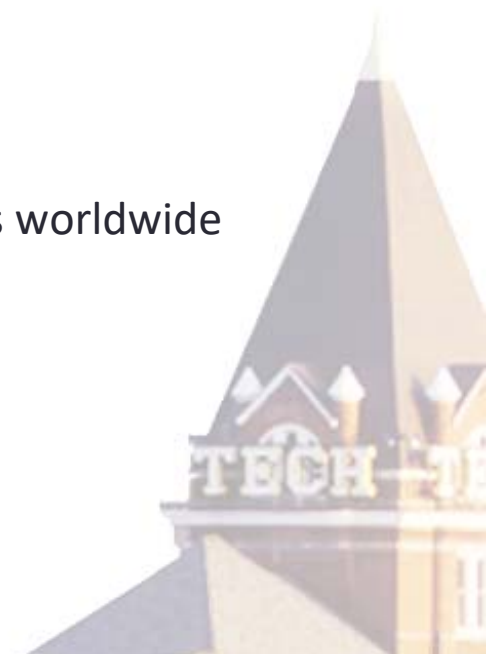
Spare Parts Supply chain example
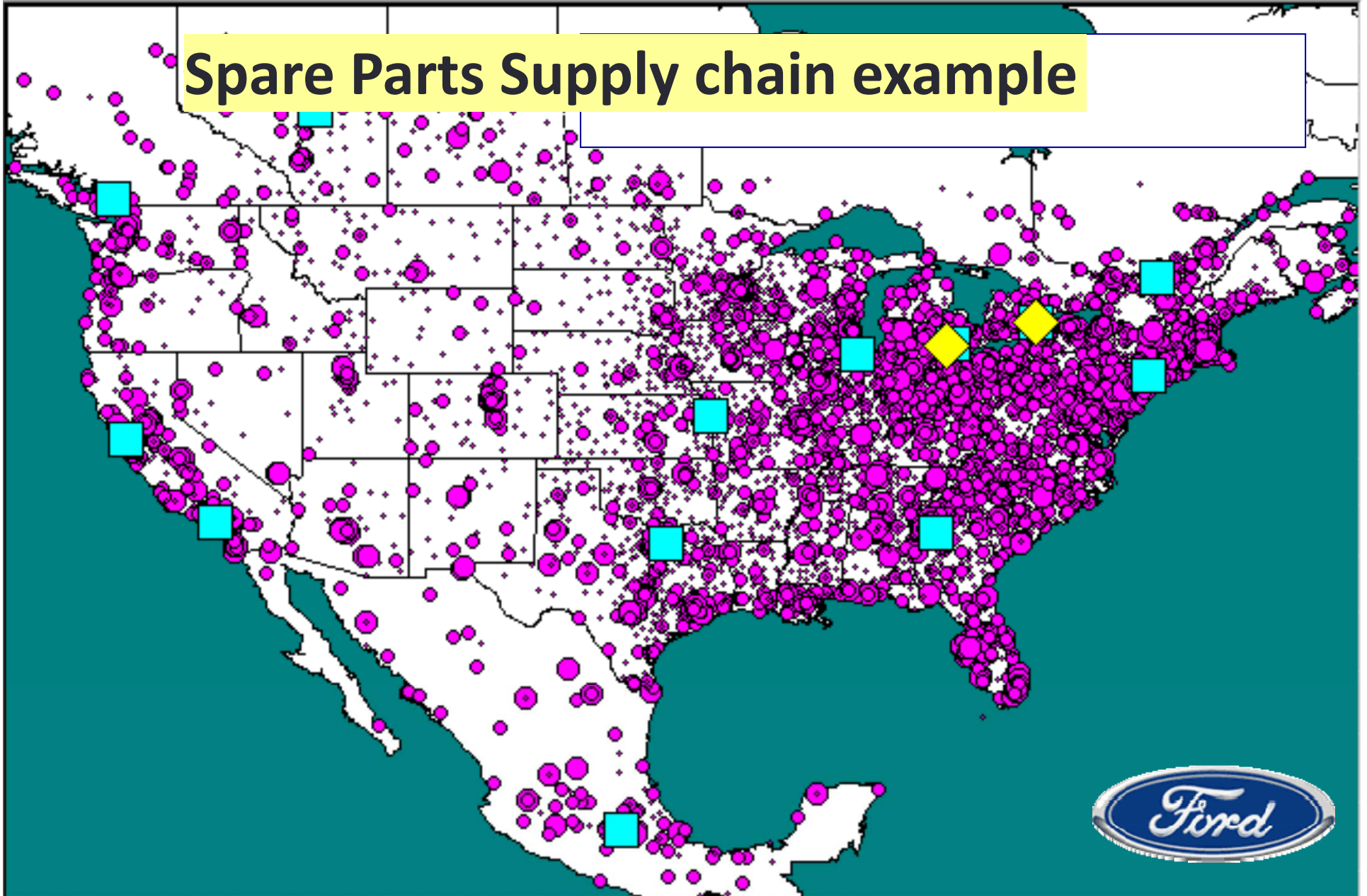
Location/allocation Optimization Model

$$Max \quad \sum_{izjl} w_j y_{izjl}$$

$$s.t. \sum_i FL_i c_i + \sum_{ijk} FS_{jk} s_{ijk} + \sum_{izjl} VS_{ij} y_{izjl} \leq B$$

$$\sum_{zl} y_{izjl} \leq \sum_k CAP_{jk} s_{ijk} \qquad \forall i, j$$

$$0 \leq y_{izjl} \leq d_{izjl} \qquad \forall i, z, j, l$$

$$\sum_{l \geq m, i} y_{izjl} \leq P_m n_{zj} \qquad \forall z, j, m$$

$$\sum_k s_{ijk} \leq c_i \qquad \forall i, j$$

$$c_i, s_{ijk} \in \{0,1\}$$

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FASTPASS at Walt Disney World

Source: www.orlandofuntickets.com

IE in Other Words

Business
Engineering

Analytics

Efficiency

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ISyE Rankings

Since 1990 and 1995, the Stewart School has been ranked as the **best** in graduate and undergraduate programs in the United States, respectively
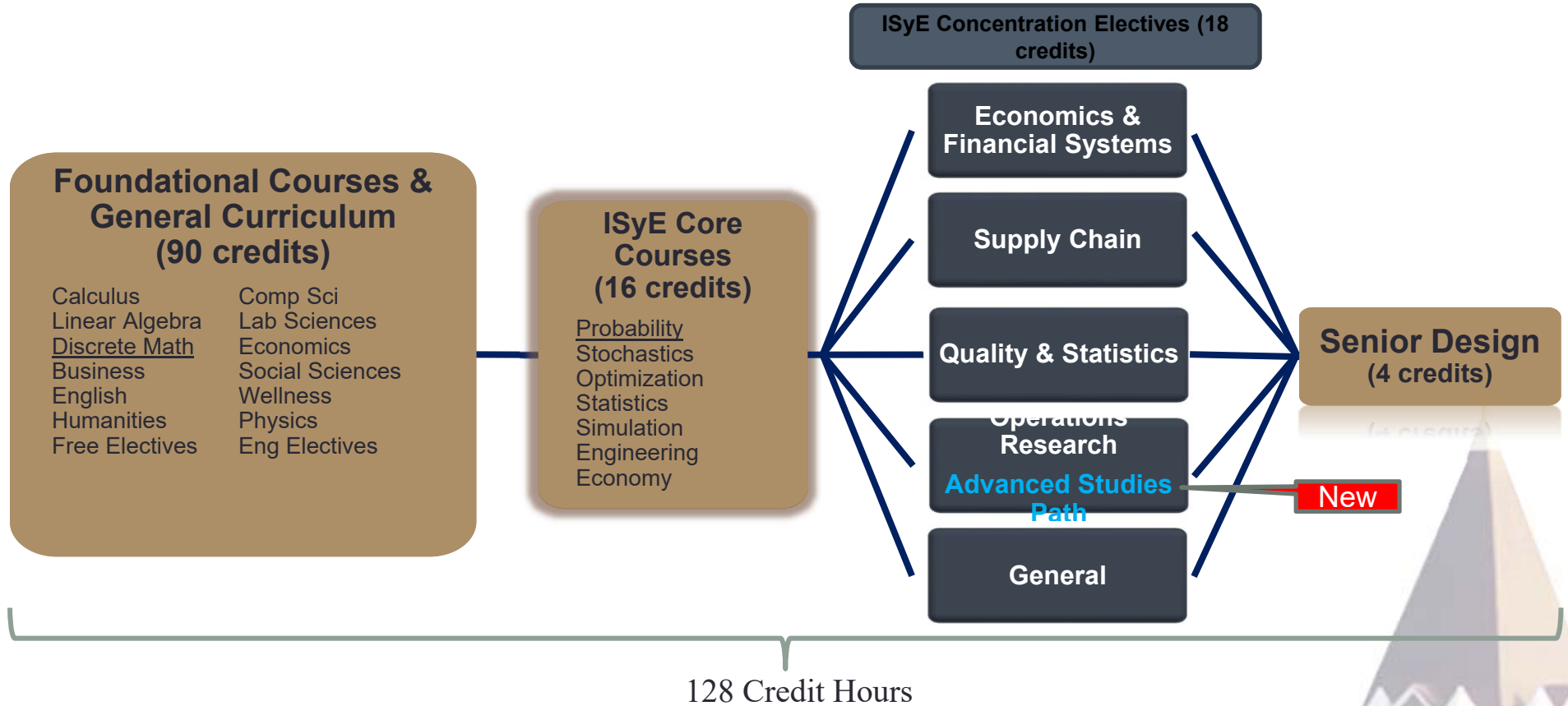
ISyE Facts

- Program started in 1924, first IE degree in 1945

- Largest IE program
  - About 1,600 undergrad students
  - Graduate over 350/year, or nearly 10% of all IEs in US
  - Over 18,000 alumni
  - ~46% are women

- Many graduates take first job as consultant/analyst (40%)

- Many ISyE graduates rise to CEO, CFO, or other top management positions in their respective organizations
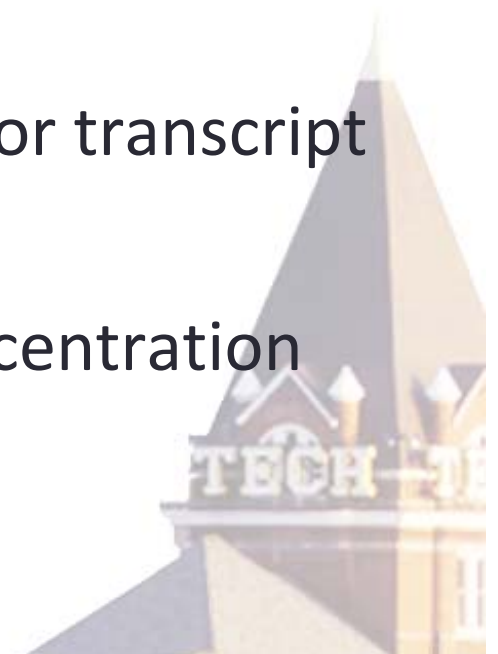
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BSIE Curriculum

ISyE Concentration Electives (18 credits)

Foundational Courses & General Curriculum (90 credits)

Calculus
Linear Algebra
Discrete Math
Business
English
Humanities
Free Electives

Comp Sci
Lab Sciences
Economics
Social Sciences
Wellness
Physics
Eng Electives

ISyE Core Courses (16 credits)

Probability
Stochastics
Optimization
Statistics
Simulation
Engineering
Economy

Economics & Financial Systems

Supply Chain

Quality & Statistics

Operations Research

Advanced Studies Path

New

General

Senior Design (4 credits)

128 Credit Hours

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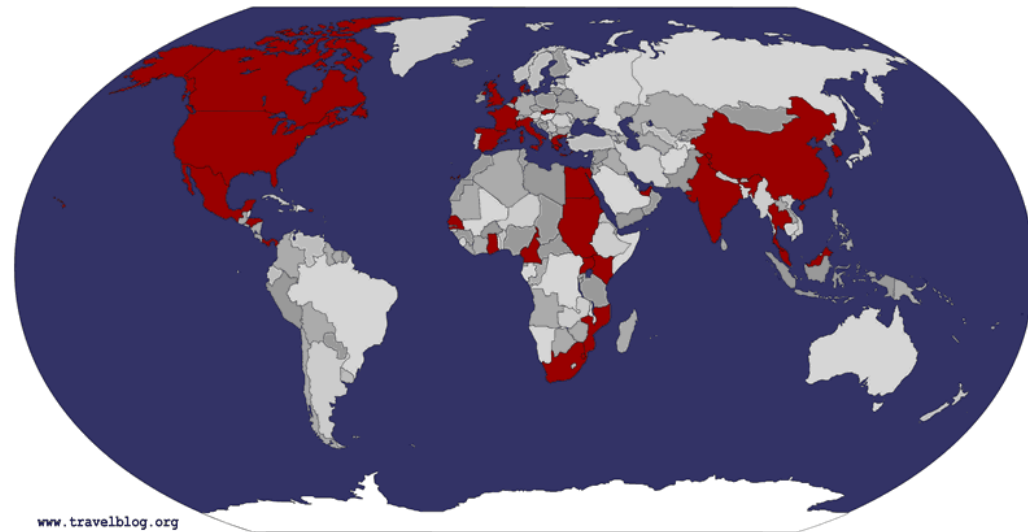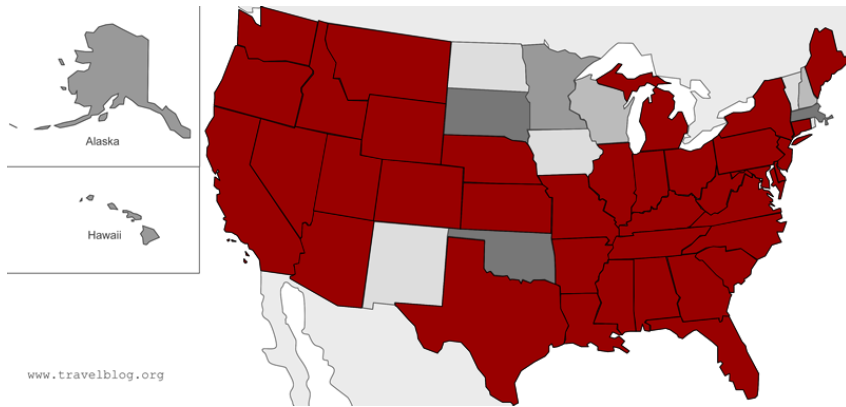
Concentrations

- Allows you to specialize within ISyE
    - Supply Chain Engineering
    - Operations Research
    - Economic and Financial Systems
    - Quality and Statistics
    - General
- Concentration is not identified on diploma or transcript
- Allows flexibility in courses of interest
- Allows student to market using named concentration
- Selected during <u>junior year</u>!

ISyE Senior Design Project Locations

www.travelblog.org

www.travelblog.org

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Project Clients, 2005 - present
National/International Corporations

- AirTran
- Anheuser-Busch
- AT&T
- BellSouth
- BlueLinx
- Burger King
- Canvas Systems
- Carrier Europe
- Carter's
- Caterpillar
- CDC
- Children's Healthcare of Atlanta
- Coca-Cola Enterprises
- Coca Cola North America
- Cooper Industries
- CR Bard
- Delta
- DHL
- Dick's Sporting Goods
- e^{2}M
- EarthLink
- ECO North America
- Eletec
- Exel

- F&P Georgia Manufacturing
- GE Energy
- General Mills
- Goody Products
- Grenzebach
- Gypsum Management & Supply
- H.C. Brill
- Home Depot
- Honda
- Intel
- InterContinental Hotels Group
- Kimberly Clark
- Kubota Tractor
- Lockheed Martin
- Macy's
- Manheim Auto Auctions
- Matador Distributing
- McKesson
- MedShare International
- Michelin
- Newell Rubbermaid
- Norfolk Southern
- Office Depot
- PACCAR Parts

- Panasonic
- Platt Electric Supply
- Porsche
- Pratt & Whitney
- RaceTrac
- Radiant
- Reliance Electric
- Rock-Tenn
- Ryder
- Sandvik Mining & Construction
- Scientific Atlanta/Cisco
- Siemens
- Southern Company
- SunTrust
- Tyco Healthcare
- United Distributors
- UPS
- USG
- UTi
- Waffle House
- Wal-Mart
- Whirlpool
- WIKA
- Windstream
- ZF Industries

Spring 2017 Senior Design Competition Mercedes-Benz - Winner!

Left Panel

Georgia Tech | ISyE

Senior Design Finalist

(L-R): Vikrant Jain, Austin Proctor, Yanyang Zhao, Ryan Rodwell, Ram Bhutani, Stephen Murphey, Alvin Tight, Dr. Santangu Dey (Advisor).

Project Title: Mercedez-Benz USA Drone

Student Team: Ram Bhutani, Santanu Dey, Vikrant Jain, Stephen Murphey, Austin Proctor, Ryan Rodwell, Alvin Tight, and Yanyang Zhao

Faculty Advisor: Dr. Santanu Dey

Project Summary: Mercedes-Benz USA (MBUSA) engaged this team to identify how drone delivery could be valuably introduced as the first same-day part ordering option for its dealerships. The team designed a drone delivery solution to reduce part delivery time and loaner car cost and developed a coverage optimization model to determine the optimal locations to hold the drones and parts eligible for drone delivery. MBUSA will be able to leverage the model's user interface to modify key parameters, including associated costs and drone capabilities, and view updated model results as well as their respective net present value. Implementing such a drone delivery solution will allow MBUSA to gain a first-mover advantage, an increase in customer satisfaction, and cost savings.

1st Place Winner!

Spring 2017

Right Panel

Georgia Tech | ISyE

Senior Design Finalist

(L-R): Vishal Mummigatti, Jose Rodriguez, Diem Tran, Connor Owen, Divya Vedula, Jiali Zhao, Kristie Choe, Aaron Ahn, Dr. Julie Swann (Advisor).

Project Title: CDC Smoke

Student Team: Aaron Ahn, Kristie Choe, Vishal Mummigatti, Connor Owen, Jose A. Rodriguez, Diem Tran, Divya Vedula, and Jiali Zhao

Faculty Advisor: Dr. Julie Swann

Project Summary: The team worked with the CDC to support a recent policy by HUD where effective February 3rd, 2017, all 1.3 million public housing units must go "smoke-free" within 18 months. They created a targeted approach to smoking cessation by estimating smoking prevalence within the public units, calculating the return-on-investment (ROI) of each cessation intervention at a granular level, and prioritizing recommendations that yield the highest returns. They have developed a tool, EXTINGUISH, that visualizes relevant data in order to help better utilize resources to connect smokers to cessation resources. The values of the project include greater efficiency for health departments, better connections between agencies and cessation resources, and increased support of smokers wanting to quit. With the project, they identified approximately $12 to $582 million in savings (approximately 6 percent to 20 percent in cost reductions) for the stakeholders for different smoking cessation interventions.

Spring 2017

IE Labs at GT

IE Labs – Real World

Internships and Co-ops

- Help you to understand IE better
- Help you to develop professional and practical skills
- Get paid
- Improved job prospects
- Higher starting pay
- Differences:
  - Co-op: significant, progressive experience, on diploma
  - Internship: flexible

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Georgia Tech's Create-X Entrepreneur Programs

Startup Lab

Startup Lab is the signature element of CREATE-X LEARN. In Startup Lab students learn about the process of customer discovery and how to understand market demand.

Idea 2 Prototype

Idea to Prototype is the signature element of CREATE-X MAKE. Through I2P, students are given guidance, academic credit, and funding to create functional prototypes of their ideas.

LEARN MORE ›

Startup Summer

Startup Summer is the signature element of CREATE-X LAUNCH. During Startup Summer teams go from a developed idea or prototype to a fully launched startup. $20,000 in funding is provided to the teams by an external investment fund.

LEARN MORE ›

COE/CS/MGT 2701 Startup Lab: Tech Ventures 2-3-3
Count as Group II Engineering Elective

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Study Abroad

- Benefits
  - Culture, geopolitical systems, society, people
  - Expanded system view
  - Reduced cost for out-of-state students
- Types of programs
  - Faculty-led summer study abroad programs (GT courses)
  - Semester/exchange programs (courses taken at other institutions)
  - Work abroad
  - LBAT (languages for business and technology)
- International Plan (IP)
  - Recognized on diploma and transcript
  - More…

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International Plan

Georgia Tech | Office of International Education

WITH THE IP, YOU CAN BE CONFIDENT YOU'RE PREPARED TO LEAD IN THE GLOBAL ECONOMY

- ✓ Take 4 globally-focused courses as part of your degree
- ✓ Spend at least 26 weeks studying and/or interning overseas
- ✓ Acquire proficiency in a foreign language
- ✓ Develop intercultural skills and a global perspective of your major
- ✓ Receive recognition on your Georgia Tech diploma and transcript

APPLY ONLINE:
oie.gatech.edu/content/apply-now

For more information visit us at the **Tech Resource Fair** during FASET

404.894.7475
211 Savant Building
internationalplan@oie.gatech.edu
oie.gatech.edu/IP

http://internationalplan.gatech.edu

Popular Faculty-Led Programs for IEs

- GT Lorraine: 2 sophomore/junior IE courses, apply early!
- Oxford: flexible
- Limerick, Ireland: 2 sophomore IE courses, Eng. Electives
- Beijing/Vietnam/Singapore: 3+ IE senior courses + History
- Many others

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Additional Opportunities to Learn IE

- Research with faculty
  - For students interested in IE graduate studies
  - For students in junior/senior year

- Seminars and speakers (usually > 1 per week)

- Student organizations
  - Institute of Industrial and Systems Engineers (IISE)
  - Alpha Pi Mu (IE Honor Society –founded at GT)
  - ISyE Ambassadors

Incentives alignment between GT and You

Fewest Semesters

Highest Development of Competencies

Highest GPA/Hope Scholarship/Spend Less

GaTech Undergraduate Freshmen Incentives

Most Networking Opportunities

Maximum Relevant Work Experience

Confidence, Best Campus Life Experience

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Studying at GT

- Make sure to graduate!

- Get best experience!

- 1 credit = 1 hour class + 2 hour self study

- Read textbook(s), homework, study hall, office hours, OMED, Tutors, Peer Plus sessions

- Sports analogy

Everyone Can Win

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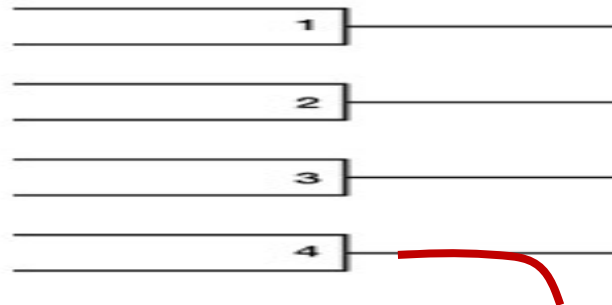
Math Credits

- AP Score
  - 5: Indicate 60% - 100%. ISyE recommends you repeat the course if < 80%
  - 4: Indicate < 60%. ISyE strongly recommends you repeat course
- IB Score
  - 5 or above for 1551, OK, no need to repeat
- GT course from metro area
  - 1554 and 2551 offered at the same levels with different exams and easier grading, skip if you have solid A

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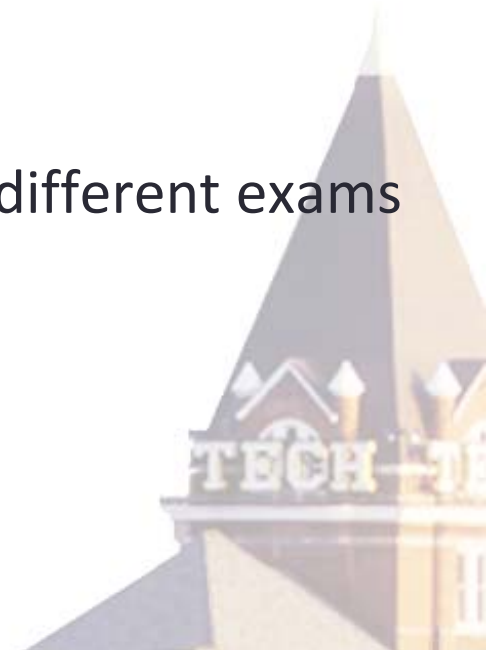
Math

- You are in one of four groups:
  - 1 – Coming in with no Math credit
  - 2 – Coming in with credit for Differential Calculus
  - 3 – Coming in with credit for both Differential and Integral Calculus
  - 4 – Coming in with Differential, Integral, & Multivariate (and maybe even Linear Algebra)

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Group 1: No Incoming Math Credit

Incoming Credit

Options

Courses

N/A

Option 1
- 1551-2-Diff Calc
- 1553-2-Linear Alg

Option 2
- 1551-2-Diff Calc
- 1554-4-Linear Alg*

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* This course may be required for certain minors
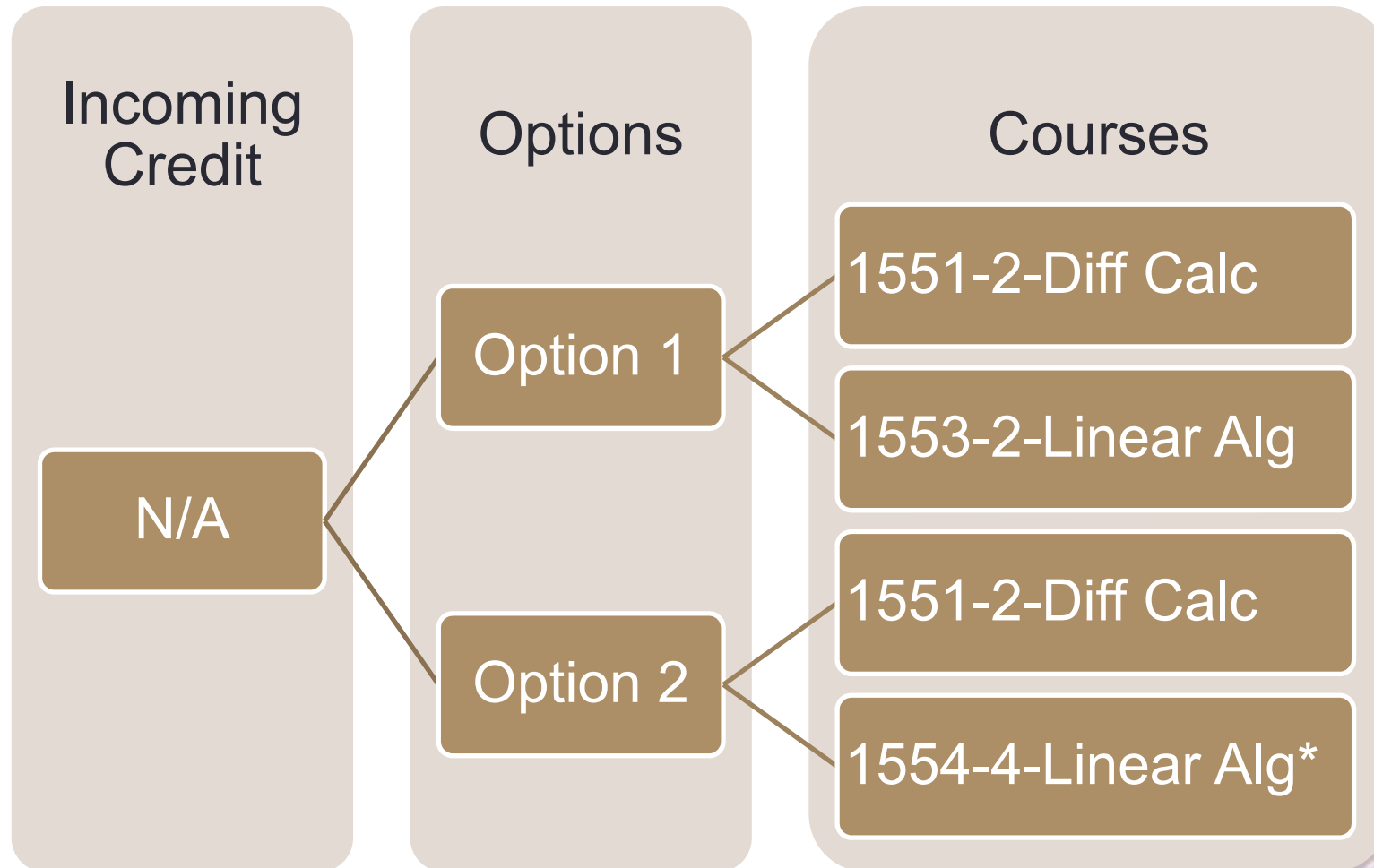
Group 2: Math 1551 Incoming Credit

Incoming Credit

Options

Courses

Math 1551

Option 1* — 1552-4-Integral Calc

Option 2 — 1553-2-Linear Alg

Option 3* — 1554-4-Linear Alg

* Denotes ISyE Advising Team Recommended Option
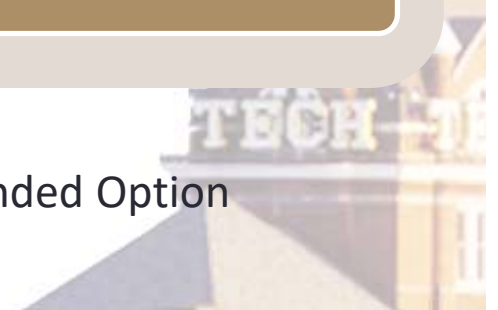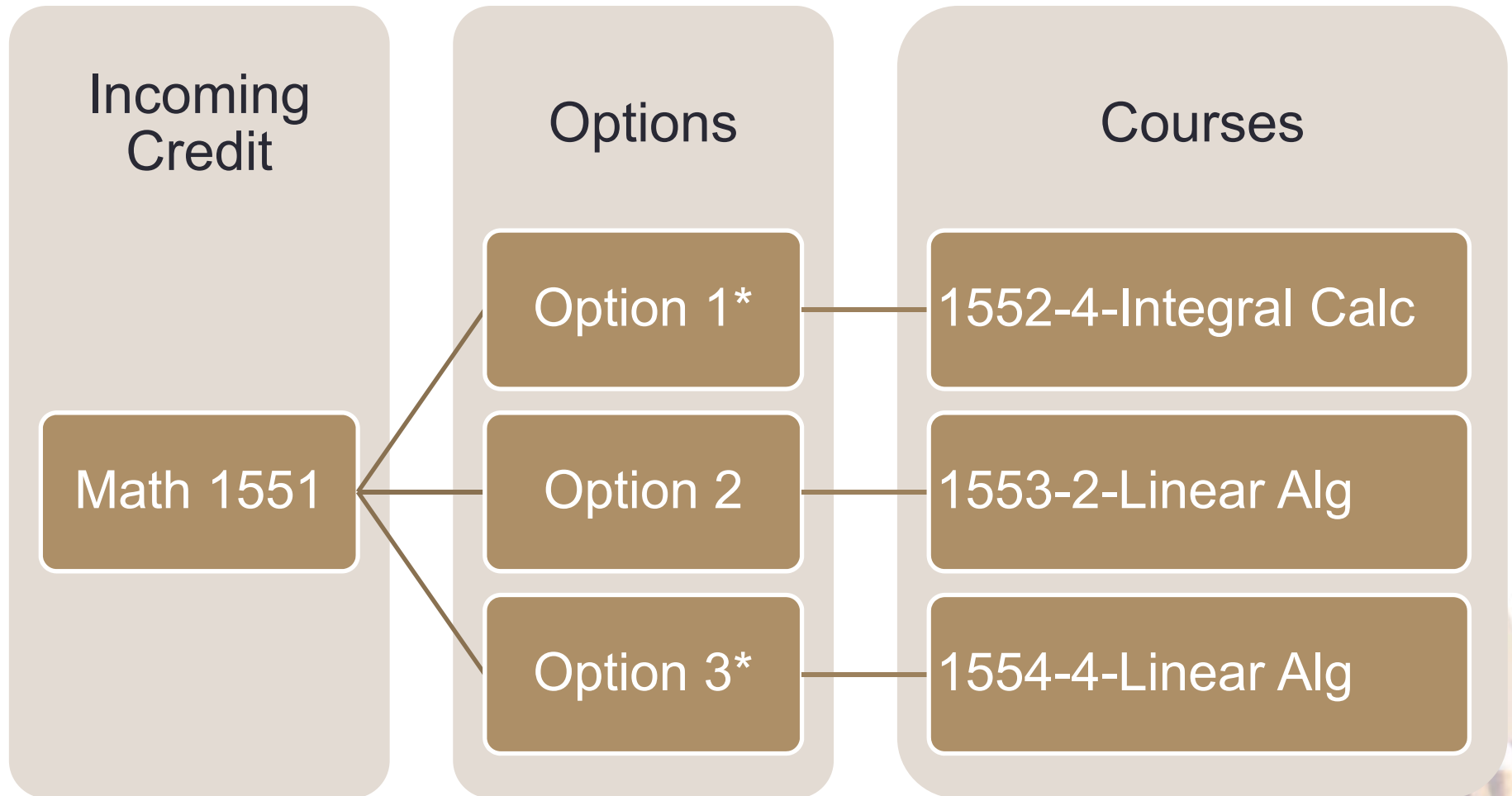
Group 3: Math 1551 & Math 1552 Incoming Credit

Incoming Credit	Options	Courses
Math 1551 & Math 1552	Option 1	1553-2-Linear Alg
	Option 2	1554-4-Linear Alg
	Option 3*	1552-4-Integral Calc
	Option 4	1564-4-Linear Alg & Abs Vector

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* Denotes ISyE Advising Team Recommended Option
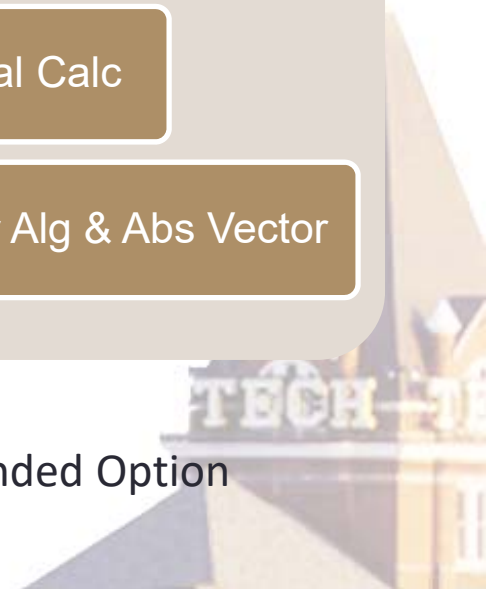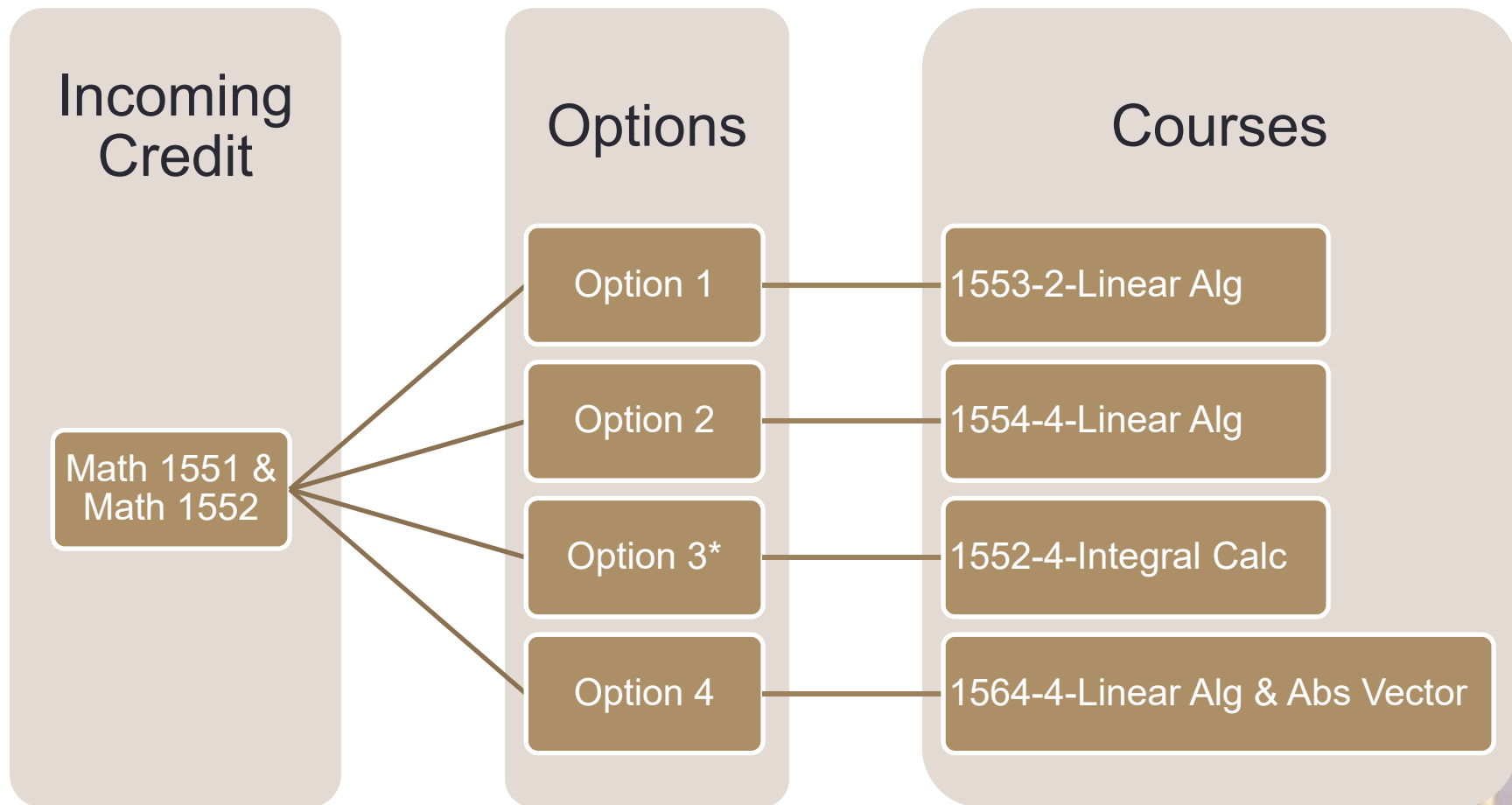
Group 4: Math 1551, 1552, 1554@GT, & 2551@GT Incoming Credit

Incoming Credit	Options	Courses
Math 1551, 1552, 1554, & 2551	Option 1	2603-4-Discrete Math
	Option 2	2551-4-Multivariate
	Option 3	1552-4-Integral Calc
	Option 4	ISyE 2027-3-Probability
	Option 5*	Settle in, no math

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* Denotes ISyE Advising Team Recommended Option
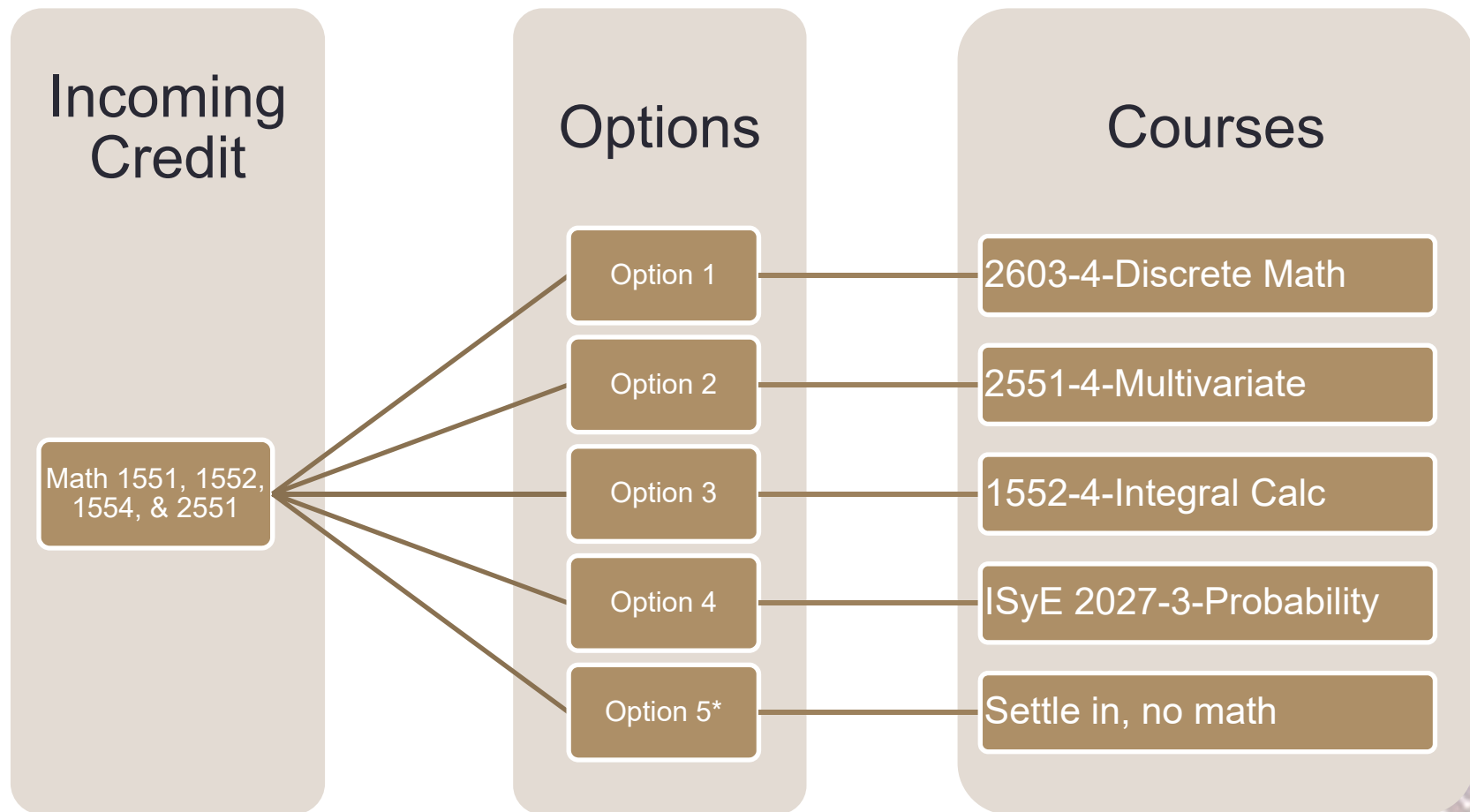
Where Do Our Graduates Go?

2017 Spring Career and Salary Survey

Major	Offer Rate	Placement Rate	Number Reporting Salary	Population of Job-Seekers	Salary Offer (in thousands)		
					Median	High	Low
Industrial Engineering	92.50%	88.60%	84	105	$ 68	$ 110	$ 25
Computer Engineering	90.30%	82.10%	21	28	75	115	63
Civil Engineering	81.50%	77.80%	19	27	58	67	30
Electrical Engineering	89.80%	77.30%	31	44	70	113	36
Chemical Engineering	75.00%	69.80%	42	63	72	100	50
Mechanical Engineering	84.30%	69.60%	81	135	68	107	25
Biomedical Engineering	84.60%	64.30%	25	42	65	80	25
Aerospace Engineering	71.10%	61.50%	20	39	70	105	55
Materials Science & Eng	72.20%	56.30%	7	16	65	75	55

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Registration & Advising
Fall 2017 FASET

Academic Advising

LOCATION: Groseclose Building, 2nd floor, ISyE Academic Office

- In-person appointments with your assigned advisor
  - Schedule appointments through GradesFirst: https://gatech.gradesfirst.com/

- Weekly walk-in hours
  - Thursdays, 9:30-11:30 am and 1:30-3:30 pm

- Via e-mail
  - We're able to answer many simple questions by e-mail!

- Mandatory freshmen and sophomore group advising in the fall

- Mandatory individual junior advising appointment

Academic Advising

Office: Groseclose Building,
Academic Office, Suite 203

Advising Appts: Through GradesFirst Scheduling System:
gatech.gradesfirst.com

Walk-in Hours on Thursdays
(9:30am-11:30am, 1:30pm-3:30pm)

Lauren Silver
A–G

Fran Buser
H–Q

Jon Lowe
R–Z

Career Development Advising

Ms. Andrea Laliberte
ISyE's Edenfield Executive in Residence,
former Senior VP of Distribution and Consumer
Service for Coach

ISyE Department

Major General Ron Johnson
Professor of the Practice,
Managing Director of the Tennenbaum Institute

GT Center for Career
Discovery &
Development

Ms. Karen Houston
Career Advisor in C2D2

DegreeWorks

▸ Found on Buzzport: buzzport.gatech.edu

DegreeWorks

Georgia Tech

Georgia Tech DegreeWorks Audit

Student View	AC674PVd as of 08/18/2014 at 07:34		
Student		Level	Undergraduate Semester
ID		Degree	BS in Industrial Engineering
Classification	Freshman	College	College of Engineering
Overall GPA	0.00	Major	Industrial Engineering
Degree Candidate		Concentration	
Academic Standing		Minor	
Graduation Application Status		Graduation Status	

George P. Burdell
900012540

Disclaimer

You are encouraged to use this degree audit report as a guide when planning your progress toward completion of the above requirements. Your academic advisor or the Registrar's Office may be contacted for assistance in interpreting this report. This audit is not your academic transcript and it is not official notification of completion of degree or certificate requirements. Please contact the Registrar's Office regarding this degree audit report, your official degree/certificate completion status, or to obtain a copy of your academic transcript.

Legend

✅	Complete	�	Complete except for classes in-progress	(T)	Transfer Class	.	Course contains prerequisite(s)
☐	Not Complete	≈	Nearly complete - see advisor	@	Any course number		

In-progress				Credits Applied: 16	Classes Applied: 5
APPH 1040	Sci Foundation of Health	IP	2	Fall 2014	
EAS 1600	Intro-Environmental Sci	IP	4	Fall 2014	
ENGL 1101	English Composition I	IP	3	Fall 2014	
INTA 1200	American Government	IP	3	Fall 2014	
MATH 1502	Calculus II	IP	4	Fall 2014	

☐ BSIE - Degree Requirements		Catalog Year:	2014-2015	Credits Required:	128
		GPA:	0	Credits Applied:	35

Unmet conditions for this set of requirements: Last 20 Credits in residence needed

93 Credits needed
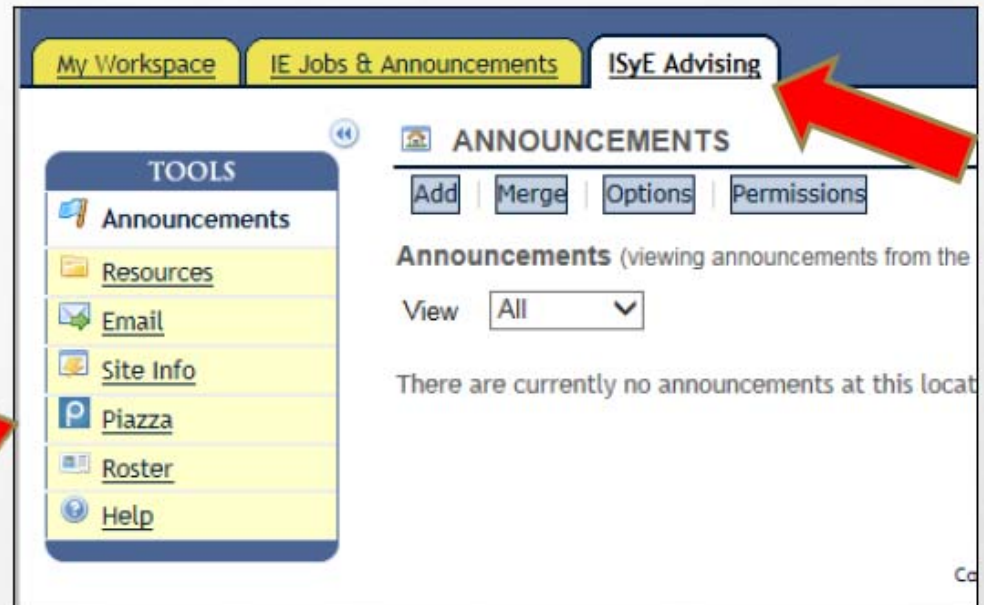
128 Credits applied to the Degree are Required for Graduation. Your last 36 Credits must be taken in Residence.

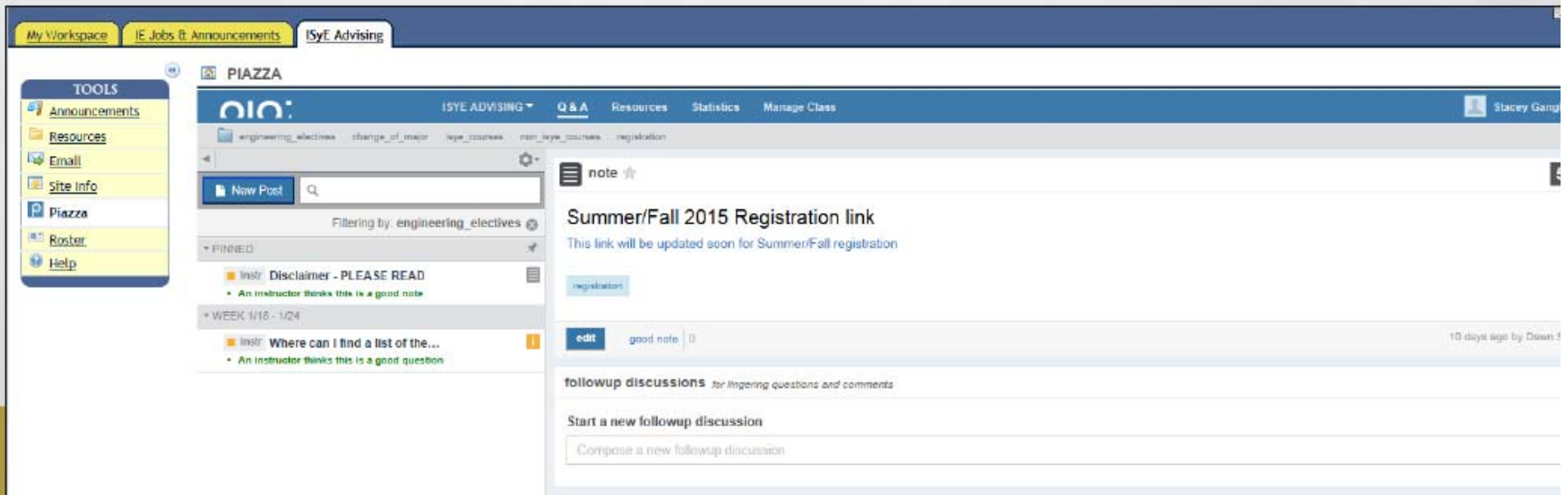|			
☐	2.0 Overall GPA Required		
✅	Regents' Reading Requirement	RTPR Y	
✅	Regents' Writing Requirement	RTPW Y	
☐	Legislative Requirement - GA History	Still Needed:	Legislative Requirement - GA History
☐	Legislative Requirement - US History	Still Needed:	Legislative Requirement - US History
☐	Legislative Requirement - GA Constitution	Still Needed:	Legislative Requirement - GA Constitution
☐	Legislative Requirement - US Constitution	Still Needed:	Legislative Requirement - US Constitution
☐	US Perspectives Overlay	Still Needed:	Effective Fall 2011, all students must complete 3 credit hours in at least one US themed course to fulfill the US Perspectives Overlay requirement. Please visit www.catalog.gatech.edu/students/ugrad/

Advising Piazza

Found in T-Square

ISyE Website www.isye.gatech.edu

Student Resources

BSIE Scheduling Tool

This is a scheduling tool only. It does not check for the completion of prerequisites and does not replace DegreeWorks as the official record for degree completion. If you have questions, please contact your academic advisor.

Select Term	Requirement	Select or Type Course Name	Number of Credits (choose if applicable)	Prerequisites
	APPH 1040 or 1050		2	
	ENGL 1101		3	
	ENGL 1102		3	ENGL 1101
	MATH 1551		2	
	MATH 1553		2	
	CS 1301		3	
	Humanities Elective		3	
	Humanities Elective		3	
	PHYS 2211		4	MATH 1501 or MATH 1551
	PHYS 2212		4	PHYS 2211
	MATH 1552		4	MATH 1501 or MATH 1551
	Constitution Requirement		3	
	ECON 2100, 2101, 2105, or 2016		3	
	PSYC 1101		3	
	Social Science Elective		3	
	CS 2316		3	CS 1301 or 1371
	CS 4400		3	CS 1301 or 1371
	MATH 2551		4	MATH 1553 and MATH 1502 or MATH 1552
	Lab Science		4	
	Lab Science		4	
	Management Elective (MGT 3000 or ACCT 2101)		3	
	MATH 2603		4	MATH 1502 or MATH 1552 & MATH 1553
	ISyE 2027		3	MATH 2401 or MATH 2551 (coreq)
	ISyE 2028		3	ISYE 2027
	ISyE 3025		1	
	ISyE 3133/3833		3	MATH 2602 or 2603, ISYE 2027, CS 2316
	ISyE 3232		3	ISYE 2027
	ISyE 3044		3	ISYE 2028, ISYE 3232
	ISyE 4800		0	taken in the semester prior to ISyE 4106
	ISyE 4106		4	ISYE 3133, 3232, 3044, 3025, completed 4 of 6 ISYE Electives, within 2 terms of graduation (summer excluded)
	Engineering Elective ECE 2020, 2026, or 3710/3741		3	see catalog
	Engineering Elective Group 1		3	see catalog
	Engineering Elective Group 1 or 2		3	see catalog
	Engineering Elective Group 1 or 2 (if necessary)			see catalog
	ISyE Concentration Elective		3	see catalog
	ISyE Concentration Elective		3	see catalog
	ISyE Concentration Elective		3	see catalog
	ISyE Concentration Elective		3	see catalog
	ISyE Concentration Elective		3	see catalog
	ISyE Concentration Elective		3	see catalog
	Free Elective			
	Free Elective			
	Free Elective			
	Free Elective			
	TOTAL (128 required)		117	

Engineering Elective total (9 required)	9
Free Elective total (11 required)	0
Enviromental Course	☐
Minimum ISYE and overall GPA 2.0	☐

BSIE Scheduling Tool

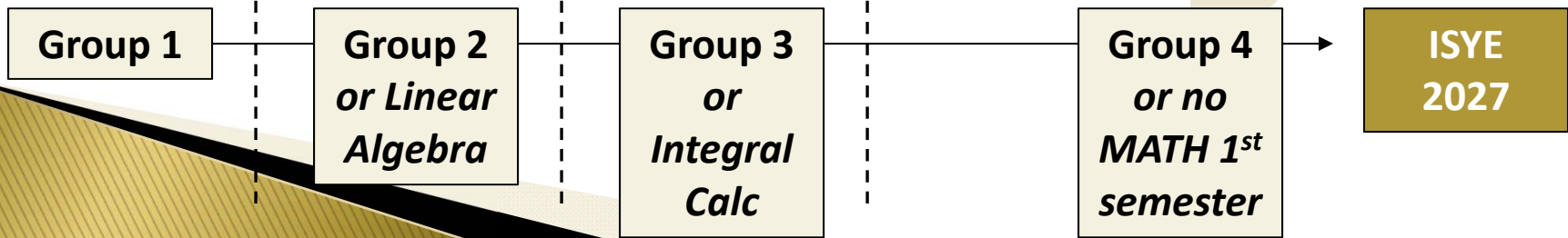| Select -->	Fall 2017		Spring 2018		Summer 2018	
	Requirement	Number of Credits	Requirement	Number of Credits	Requirement	Number of Credits
	ENGL 1101	3	ENGL 1102	3	Internship or classes	0
	MATH 1551	2	CS 1301	3		
	MATH 1553 (2 credits) or 1554 (4 credits)	2	MATH 1552	4		
	Lab Science	4	Lab Science	4		
	GT 1000	1				
	Total Hours	12	Total Hours	14	Total Hours	0
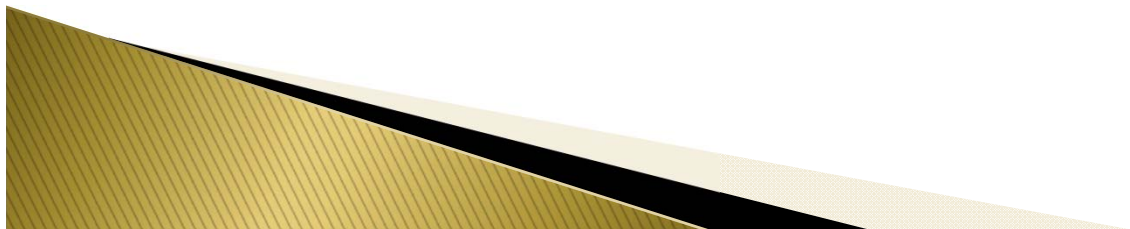
Registration Today

Typical Fall Schedule

- MATH
- English 1101
- Lab Science
- Psychology or History or Humanities or Social Science
- GT 1000 (Free Elective)

Math Semester Sequence

MATH 1551 (2) & MATH 1553 (2)	MATH 1552 (4)	MATH 2551 (4)	MATH 2603 (4)

MATH 1551 (2) & MATH 1554 (4)	MATH 1552 (4)	MATH 2550 (2)	MATH 2603 (4)

MATH 1551 (2)	MATH 1552 (4)	MATH 1554 (4)	MATH 2550 (2)	MATH 2603 (4)

Group 1 → Group 2 *or Linear Algebra* → Group 3 *or Integral Calc* → Group 4 *or no MATH 1st semester* → **ISYE 2027**

1) MATH 1553 (2) & MATH 2551 (4) vs 2) MATH 1554 (4) & MATH 2550 (2)

▸ ISyE math foundation tracks
  ◦ Calculus: more important for probability and stochastic process and their applications
    • Option #1
  ◦ Linear Algebra: Discrete math and optimization and their applications
    • Option #2

▸ Either pair is sufficient
  ◦ 4-hour version provides more solid foundation over the 2-hour version

▸ You should consider MATH 2550 as prerequisite for ISyE 2027 (if option #2)
  ◦ ISyE 2027 may need multivariable integrals before you learn it in MATH 2550

Math Advanced Standing

- Please see here:
  http://www.math.gatech.edu/undergraduate/advanced-standing-exams

- Optional GT Advanced Standing

- Request Advanced Standing exam deadline:
  ◦ New Summer Freshman 2017: Thursday, July 13th
  ◦ Fall Freshman 2017 – Thursday, November 23rd

- Possibly available in other disciplines – see Registrar's website for details
  http://www.registrar.gatech.edu/students/formlanding/advstanding.php

Registration Today

Typical Fall Schedule

- MATH
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- Psychology or History or Humanities or Social Science
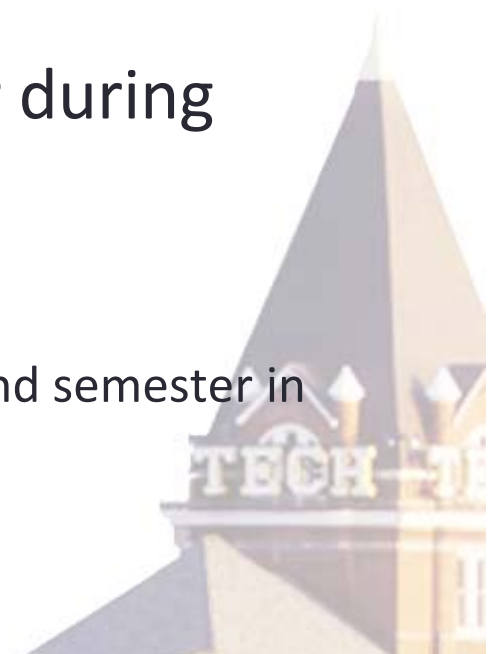- GT 1000 (Free Elective)

English 1101 and 1102

Do you have AP credit for English 1101?

- Plan to take English 1102 Spring Semester*

  Or

- Try to register for English 1102 today or during Phase II

*English 1101 and 1102 must be completed by your second semester in residence.

Georgia Institute of Technology
The H. Milton Stewart School of Industrial and Systems Engineering

Registration Today

Typical Fall Schedule

- MATH
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- Lab Science
- Psychology or History or Humanities or Social Science
- GT 1000 (Free Elective)

Lab Science Requirements

Required:
(both courses)

PHYS 2211 ➕ PHYS 2212

Choose two:

BIOL 1510

CHEM 1310

EAS 1600 or 1601 or 2600

Recommended!

Notes:
- Only one EAS course is allowed
- Only BIOL and EAS lab courses count toward environmental requirement
- If you have credit for CHEM 1211 and 1212, you will need to take an alternate course to satisfy the environmental requirement

Lab Science Registration - example

- General Chemistry – 85972 – CHEM 1310 – A

  - Lecture and Exam Period (excluding final exam)

- General Chemistry – 85976 – CHEM 1310 – A01

  - Lab and Recitation

Registration Today

Typical Fall Schedule

- MATH
- English 1101
- Lab Science
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- GT 1000 (Free Elective)
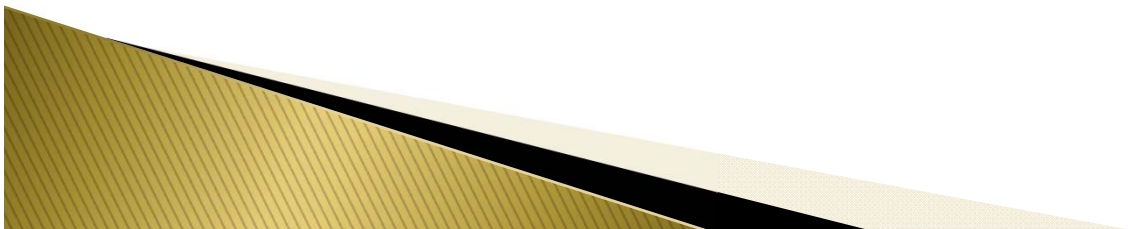
Registration Today

Typical Fall Schedule

- MATH
- English 1101
- Lab Science
- Psychology or History or Humanities or Social Science
- GT 1000 (Free Elective)

Fall 2017 - GT 1000 (GT Freshman Seminar)

Recommended sections:
- IE1, IE2, IE3, or IE4

1 Credit Free Elective

Typical First Year

Fall	Spring
Math	Math
ENGL 1101	ENGL 1102
Lab Science	CS 1301
Humanities, SS, Free, GT 1000	Lab Science/Engineering Elective

Computer Science

▸ No CS credit – take CS 1301 in SPRING

▸ AP/Transfer CS 1301 or 1371 Credit:
  ◦ Are you ready for CS 2316?
    • From CS department: "The first 3 weeks of CS 2316 are spent in a review/refresher of Python designed so that students who have a CS course in any language should be able to get up to speed."
    • Useful to self-study Python before the course.

[–] **summetj** **20 points** 1 month ago
Look at the online course calendar. http://www.cc.gatech.edu/classes/AY2016/cs1301_spring/
On the left hand column there are the assigned readings, which are all freely available on the web. Do them.
On the right hand column there are recorded lecture videos (from 2009, but other than the python2 to python3 switch, the topics are basically the same), you can watch them.
Click the "homeworks" tab at the top, do all the homeworks.
TaDa, self study complete!

Typical First Year

Fall	Spring
Math	Math
ENGL 1101	ENGL 1102
Lab Science	CS 1301
Humanities, SS, Free, GT 1000	Lab Science/Engineering Elective

Engineering Electives

ISyE students are required to take **9 credit hours of Engineering Electives** from other engineering disciplines.

- One course must be ECE 2020, ECE 2026, or ECE 3710/3741
- At least 2 additional credits must be taken from Group I
- The remaining credits can be taken from Group 1 or Group 2

Engineering Electives

2016 - 2017	2015 - 2016

Important Notes	Group 1	Group 2

You must take at least one of the following (3 credits each):

Course	Description	Credit
ECE 2020	Digital System Design	3
ECE 2026	Intro Signal Processing	3
ECE 3710 and ECE 3741	Circuits & Electronics & Instrum & Electronic Lab	3

The remaining 6 credits must satisfy the following:
- Take at least 2 additional credits from Group 1
- At most one CX course is allowed
- All Special Topics courses (4801/4803/4823, etc.) MUST be approved by your advisor. No SEMINARS may be used
- You must meet the pre-requisite requirements

Registration Phase II

▸ After FASET, you will still have an opportunity to change your schedule during Phase II.
http://www.registrar.gatech.edu/

Phase II Registration: August 12th–25th

Check for Holds

- **Be sure to do this BEFORE registration**

- Campus departments can place a hold on your account that will prevent adding and dropping courses

- The hold can ONLY be removed by the department that administered the hold.

- The most common holds include those through:
  - ❑ Student health services
  - ❑ Major school
  - ❑ Housing
  - ❑ Bursar

Check Your Registration Status:

Displayed below are various items which may affect your registration. You permitted to select.

Click this Calendar link for important registration dates, including assignm

You may register during the following times

From	Begin Time	To	End Time
Aug 26, 2014	08:00 am	Oct 26, 2014	04:00 pm

✔ You have no Holds which prevent registration.
✔ Your Academic Standing is Good Standing which permits registration.
✔ Your Student Status permits registration.
   Your Class for registration purposes is Junior.

Should look like this

Waitlists

○ The ISyE department uses a waitlist system and does NOT grant overload permits

oscar.gatech.edu

Detailed Class Information
Probability With Apps - 80612 - ISYE 2027 - D

Associated Term: Fall 2015
Levels: Graduate Semester, Undergraduate Semester

Georgia Tech-Atlanta * Campus
Lecture* Schedule Type
3.000 Credits
Grade Basis: L
View Catalog Entry

Registration Availability

	Capacity	Actual	Remaining
Seats	70	43	27
Waitlist Seats	50	0	50

Restrictions:
May not be enrolled in one of the following Levels:
    Graduate Semester
Must be enrolled in one of the following Majors:
    Industrial Engineering
Must be enrolled in one of the following Campuses:
    Georgia Tech-Atlanta *

Prerequisites:
(Undergraduate Semester level MATH 1502 Minimum Grade of D or Undergraduate Semester level MATH 1512 Minimum Grade of D or (Undergraduate Semester level MATH 15X2 Minimum Grade of D and Undergraduate Semester level MATH 1522 Minimum Grade of D)) and (Undergraduate Semester level MATH 2401 Minimum Grade of D or Undergraduate Semester level MATH 2551 Minimum Grade of D)

IT Information

- Questions regarding a computer to bring to GT: See the Student Computer Ownership website at www.sco.gatech.edu

- Questions about what ISyE offers in addition to the resources from OIT: See the ISyE website www.isye.gatech.edu/computing

- Questions not answered above:
- Email support@oit.gatech.edu or helpdesk@isye.gatech.edu

- **Parents**: Are your child's belongings, and especially that shiny new laptop, covered under your homeowners/renters insurance policy? Ask about a computer rider.

ISyE Facilities Information

- **Building Access**: The facilities are open at 7:30am and close at 6:00pm. Use your BuzzCard for entry before and after typical hours.

- **Computer Lab**: There is 24 hour access to the lab. Located first floor of the Groseclose building.

- **ISyE Studio**: There is 24 hour access to the studio. Located first floor of the Main building room 103.

- **ISyE Meeting Rooms**: Meeting rooms located in both the Main and Groseclose building. Reserve rooms using the Room Reservation System.

- **Instructional Center**: GT Institute building used for classes and meetings. If you need to reserve a room you can do it on line from the GT Space Planning website.
- **For BuzzCard access issues, please email the ISyE helpdesk. Include your name, area you need access to, and GTID number.**

- Be aware of your surroundings. If you see or suspect anything suspicious call the GT Police at 404-894-2500. You may also call the ISyE front office at 404-894-2300 8am to 5pm

Important Websites

- **Resources:**
- Academic:
  - *ISyE homepage: http://www.isye.gatech.edu
  - *Registrar homepage and calendar: http://www.registrar.gatech.edu/
  - Undergraduate Resource website: http://www.gatech.edu/current-students/undergraduate
  - Permits and Overloads (other than ISyE): http://www.registrar.gatech.edu/registration/oprequest.php
  - *Class Scheduler: https://gatech.courseoff.com/workspace
  - *Transfer credit website: http://www.registrar.gatech.edu/students/transfercredit.php
  - DegreeWorks: http://www.degreeworks.gatech.edu/
  - Global Perspective: http://www.catalog.gatech.edu/students/ugrad/core/gp.php
  - * show these

- Academic Success:
  - Center for Academic Success: http://www.success.gatech.edu/tutoring
  - 1 to 1 Tutoring (appointment): http://www.success.gatech.edu/tutoring/1-to-1
  - Commons Tutoring (drop-in): http://www.success.gatech.edu/tutoring/commons
  - OMED Educational Services: http://www.success.gatech.edu/tutoring/omed
- Career:
  - Career Services: http://www.career.gatech.edu/
  - DOPP: Co-op / Internship: http://www.profpractice.gatech.edu/ Rob Rogers/ Mary Fisher
  - Study Abroad: Office of International Education: http://www.oie.gatech.edu/
  - Undergraduate Research homepage: http://www.undergradresearch.gatech.edu/
  - Job Announcements: https://t-square.gatech.edu/portal
  - Pre-teaching: http://www.preteaching.gatech.edu/
  - Pre-Health: http://www.prehealth.gatech.edu/
  - Pre-Law: http://www.prelaw.gatech.edu/contact/advising
- Service:
  - Dean of Students webpage: http://www.deanofstudents.gatech.edu/
  - Counseling center website: http://www.counseling.gatech.edu/
  - Students with Disabilities: http://www.adapts.gatech.edu/

First Year – What to Expect

FALL

- STUDY – and then study some more
- Course load – 12 to 15 credit hours
- GT 1000 - Resume
- Career Fairs – Georgia Tech and IISE (September)
- Join GT IISE: http://www.gtiie.org/
- Study Abroad Fair (October)
- Mandatory Freshman group advising session – after semester begins
- Extracurricular activities

SPRING

- STUDY – and then study some more
- Course load – 12 to 15 credit hours
- Career Fairs – Georgia Tech and IISE (January)
- Apply for internships/co-ops
- Study abroad
- Extracurricular activities

SUMMER

- Class, Work or Study Abroad
- Take class(es) "back home" – Transfer credit info: http://www.registrar.gatech.edu/students/transfercredit.php

Questions?