

RETP at Georgia State University Perimeter College

A model curriculum for engineering majors to
transfer to Georgia Tech

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What is RETP?

- RETP stands for Regents' Engineering Transfer Program
- Established in 1986 by the USG Board of Regents
- Initially created to allow students successfully completing pre-engineering education at designated USG units a path to complete an engineering degree at Georgia Tech
- Currently undergoing expansion to allow for completion of engineering degrees at other USG institutions



RETP at Georgia State University

- Approximately 75 GSU students secured transfer to GT in the last year through RETP through three GSU advisers
- Student timeline:
 - 2 years at GSU
 - + 2-3 years at GT
 - 4-5 years total



GSU's RETP Student Requirements

- Completion of all RETP coursework before transfer
- At least 30 credit hours of English, math, lab science, and engineering course requirements must be completed at GSU
 - requirements vary slightly by degree program
- Cumulative GPA and Math + Science GPA meeting or exceeding minimum (determined by program of study)
- Taking no more than two courses from a refined list of the most critical requirements in the final semester before transfer



GSU's RETP GPA Requirements

- Mechanical, Electrical, Computer, Industrial, and Chemical & Biomolecular Engineering major applicants:
 - Cumulative: 3.3 (minimum) GPA
 - Math (Calc I and higher) + lab sciences: 3.3 (minimum GPA)
 - Engineering: 3.0 (minimum) GPA
 - Passing Grade in all humanities requirements
- All other engineering major applicants:
 - Cumulative: 3.2 (minimum) GPA
 - Math (Calc I and higher) + lab sciences: 3.2 (minimum GPA)
 - Engineering: 3.0 (minimum) GPA
 - Passing Grade in all humanities requirements



Georgia Tech's RETP Coursework Requirements

- Math
 - Calculus I, II, III, Linear Algebra, and Differential Equations (Diff. Eq. not required for Industrial Engr.)
- Lab Sciences
 - Physics I & II, Chemistry I, and one elective lab science (or Chemistry II, major dependent)
- Humanities
 - English I & II
- Computer Science
 - 1 required or recommended course (major dependent)



GSU's RETP Coursework Requirements

- Math
 - Same as Georgia Tech's requirements, including differential equations for all majors
- Lab Sciences
 - Same as Georgia Tech's except all majors must complete Chemistry II
- Humanities
 - Additional GSU requirements include a communications course and an American government course
- Computer Science
 - All students complete must complete 2 courses which transfer as the recommended or required computer science courses at Georgia Tech
- Engineering
 - Five additional engineering courses are required



Engineering and Computer Science Requirements

- Introduction to Engineering (3 credits)
- Engineering Graphics and Design I (3 credits)
- Engineering Graphics and Design II (3 credits)
- Statics (3 credits)
- Dynamics (3 credits) OR Electric Circuit Analysis (3 credits)
- Principles of Computer Science (4 credits)
- Computing Fundamentals for Engineers (3 credits)



GSU's RETP Coursework Requirements

- Starting at Calculus I, new students will take 67 credit hours at GSU before RETP transfer
- Suggested course plans available with variations dependent on desired course loads (full time vs. part time student), summer school preferences, and entry level math course



SUGGESTED COURSE PLANS FOR RETP STUDENTS

Starting in **Calculus**

Georgia Tech reserves the right to determine which online courses (if any) are accepted for transfer credit. Information regarding acceptance of online transfer courses can be found at https://oscar.gatech.edu/pls/bprod/wwtraneq.P_TranEg_Ltr.

OPTION A (FULL-TIME, HEAVY LOAD, 2 YEARS):

FALL – 1		SPRING-1		FALL-2		SPRING-2	
ENGR1603	3	ENGR1212	3	SCOM1000	2	CHEM1212	3
ENGL1101	3	ENGL1102	3	CHEM1211	3	CHEM1212L	1
ENGR1211	3	MATH2212	4	CHEM1211L	1	ENGR1671	3
MATH2211	4	PHYS2211	3	ENGR2605	3	ENGR2606/2040*	3
POLS1101	3	PHYS2211L	1	PHYS2212	3	MATH2652	4
		CSC1301	4	PHYS2212L	1	MATH2641	3
				MATH2215	4		
TOTAL	16		18		17		17

OPTION B (FULL-TIME, STANDARD LOAD, 2 YEARS):

FALL – 1		SPRING – 1		SUMMER – 1		FALL – 2		SPRING – 2		SUMMER - 2	
ENGL1101	3	ENGL1102	3	PHYS2212	3	ENGR1212	3	ENGR2606/2040*	3	SCOM1000	2
POLS1101	3	ENGR1211	3	PHYS2212L	1	ENGR2605	3	ENGR1671	3	MATH2652	4
ENGR1603	3	PHYS2211	3	CSC1301	4	MATH2215	4	MATH2641	3		
MATH2211	4	PHYS2211L	1			CHEM1211	3	CHEM1212	3		
		MATH2212	4			CHEM1211L	1	CHEM1212L	1		
TOTAL	13		14		8		14		13		6

*Students should select these courses based on the B.S. Degree requirement. See an RETP advisor for assistance.

OPTION C (PART-TIME STUDENT, 3.5 YEARS):

FALL - 1		SPRING-1		FALL-2		SPRING-2	
ENGR1603	3	ENGL1102	3	ENGR1212	3	SCOM1000	2
ENGL1101	3	MATH2212	4	MATH2215	4	CSC1301	4
MATH2211	4	ENGR1211	3	POLS1101	3	PHYS2211	3
						PHYS 2211L	1
TOTAL	10		10		10		10

FALL - 3		SPRING-3		FALL-4			
PHYS2212	3	CHEM1212	3	ENGR2606/2040	3		
PHYS2212L	1	CHEM1212L	1	ENGR1671	3		
CHEM1211	3	MATH2641	3	MATH2652	4		
CHEM1211L	1	ENGR2605	3				
							10
TOTAL	8		10				

Starting in Pre-Calculus

FALL - 1		SPRING - 1		SUMMER - 1		FALL - 2		SPRING - 2		SUMMER - 2	
ENGL1101	3	ENGL1102	3	PHYS2211	3	CHEM1211	3	ENGR2606/2040*	3	CHEM1212	3
POLS1101	3	ENGR1212	3	PHYS2211L	1	CHEM1211L	1	ENGR1671	3	CHEM1212L	1
ENGR1211	3	ENGR1603	3	MATH 2212	4	ENGR2605	3	MATH2641	3	MATH2652	4
MATH1113	3	MATH2211	4			MATH2215	4	PHYS2212	3		
/1112		SCOM1000	2			CSC1301	4	PHYS2212L	1		
TOTAL	12		15		8		15		13		8

RETP Student Enrollment

- Historically students have struggled to understand the enrollment requirements for RETP
- Previously any interested student was permitted to enroll upon meeting with an RETP adviser
- Paper-based enrollment limited the ability for advisers to co-advise individual students
- Program growth recently encouraged rollover into:
 - A shared electronic database of enrolled students
 - A minimum set of requirements for student enrollment



RETP Student Enrollment Process

Complete College Algebra (MATH 1111)

Meet with an RETP coordinator to create a course plan.

Successfully complete Calculus I (MATH 2431/2211)

Choose your RETP coordinator based on your campus location for ENGR courses.

- **Make an appointment with your RETP coordinator to submit the RETP enrollment form in your coordinator's office.**
- **After this, you will complete the rest of the RETP curriculum and meet with your coordinator at least one last time around the time you are applying to transfer to ensure you are on track to finish as expected.**



Georgia State University Perimeter College
Georgia Institute of Technology College of
Engineering
RETP Enrollment Application Form

Online RETP enrollment form

I understand that I am subject to the RETP requirements in place at the time that I apply to transfer to a RETP partner institution, and I am aware of the current requirements in place at my current institution and the RETP partner institution which are subject to change. I intend to work hard throughout my preparations for RETP transfer in order to meet and exceed the minimum requirements in place. I also understand that I am highly considered for admissions, but am not guaranteed admissions to the RETP partner institution through this program.

Current Student ID #

Last Name

First Name

Middle Name

Primary RETP Coordinator

Anticipated First Semester at Georgia Tech

(please discuss with your RETP coordinator before inputting a semester)



RETP Questions from Students

- Some common questions come from:
 - Students who have college credit from other institutions (most common)
 - Non-traditional students
 - International students
 - Students who want to try to transfer without RETP first
 - Students who are looking for loopholes to change into a higher demand major



RETP Information for Students

FAQs documents and full information on GSU's RETP program are available online. Some common questions include:

Can I retake a class to make up for low GPA?

Classes with a D or F must be retaken and can help your GPA. Georgia Tech will not replace a passing grade (A, B, or C) if you retake the class.

Can I take online classes?

Short answer: No.

Can I enroll in RETP if I try to transfer directly and am not successful?

Yes! But you need to be enrolled in RETP for at least 1 full semester before we will recommend you. No harm in signing up early.

Why must I take a class that Georgia Tech doesn't require?

GT trusts GSU to recommend students well qualified to succeed. The GSU course requirements generate well-rounded students ready for any GT engineering major.

Will I get transfer credit for all of the engineering classes?

Short answer: Yes. See the transfer equivalency tables.



Transfer Equivalency for ENGR Coursework

Course	Title	Minimum Grade	=>	Class	Title	Credit Hours
ENGR 1211	Engineering Graphics & Design I	C	=>	FREE 1XXX	Free Elective	3.0
ENGR 1212	Engineering Graphics & Design II	C	=>	CEE 1770	3 Hrs Awarded w/ENGR 1211	0.0
			Or	ME 1770	3 Hrs Awarded w/ENGR 1211	0.0
ENGR 1603	Introduction to Engineering	C	=>	FREE 1XXX	Free Elective	3.0
			Or	FREE 1XXX	Free Elective	1.0
ENGR 1671	Computing Fundamentals for Engineers	C	=>	CS 1371	Computing for Engineers	3.0
ENGR 2040	Electric Circuit Analysis	C	=>	ECE 2040	Circuit Analysis	3.0
ENGR 2605	Statics	C	=>	COE 2001	Statics	2.0
			And	CEE 1XXX	Civil/Env Engr Elective	1.0
ENGR 2606	Dynamics	C	=>	CEE 2040	Dynamics	2.0
			And	FREE 2XXX	Free Elective	1.0

Perimeter College to GT Transfer Statistics

Transfer Applicant Statistics

	Applied	Admitted		Enrolled	
Institute	10,076	5,262	52 %	4,199	80 %
Georgia Perimeter College	876	503	57 %	450	89 %

Degrees Awarded to Students from Georgia Perimeter College

2010-2014.....77

The average starting salary of Georgia Tech undergrads is \$58,000.

Transfer Admission Statistics : 2010-2014

	Transfer GPA	Transfer GPA (Math/Sci)	First-Year GPA	Avg Transfer Credits
Institute	3.43	3.42	3.01	73
Georgia Perimeter College	3.38	3.37	3.00	83

averages for enrolled student populations only



2014 GT RETP Transfers (All RETP schools)

80

Average transfer
credit hours earned

3.50

Cumulative GPA

3.45

Math & Science GPA

2014 GT All Transfers

55-60

Average transfer
credit hours earned

3.7

Cumulative GPA

(39%
admissions)

3.7

Math & Science GPA

GT Freshmen
Stats:

(33% admissions)

9-11

AP classes

3.9

Mid 50% GPA

2020

Mid 50%
SAT score

31-33

Mid 50%
ACT scores

GSU RETP Statistics

- As of May 2015: almost 300 former Perimeter College students were enrolled in Georgia Tech's College of Engineering
- More than 1/3rd of these students were admitted through RETP
- As a group, GSU's RETP students have maintained at least a 2.8 GPA at Georgia Tech



Challenges and Future Improvements

- As RETP opens to other institutions, different GPA requirements may be needed for each institution.
- As a relatively small and young two year program, support for engineering labs has been limited. Funding for lab equipment and space is being sought.
- RETP student exit surveys will help guide future program improvements.
- 5 GSU Engineering Faculty will be available to advise RETP students beginning this fall (increased from 3 one year ago)



Questions?

GSU's RETP website:

http://depts.gpc.edu/~mcse/RETP/RETP_homepage.htm

GT's RETP websites:

<http://admission.gatech.edu/transfer/retp>

<http://ceed.gatech.edu/programs/undergrad/retep>



Examples of program success

- Kavya Manyapu, an alumna of Georgia Tech MIT, says Georgia Perimeter College gave her a strong start to reach her dream.
- She is a flight test engineer at The Boeing Company, working on the NASA Commercial Crew program for the CST-100, one of the spacecraft slated to replace NASA's space shuttle to the International Space Station.



Examples of program success contd.



- Alisha Hester, one of the first RETP students. Received highest honor in ME at Georgia Tech.
“I chose GPC for engineering, because it is an affordable start, with faculty support that will help you successfully advance to any four-year college such as Georgia Tech...”





Spring 2014



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Regents Engineering Transfer Program puts degree within reach

If you've dreamed of becoming an engineer, but don't have the academic requirements or funds to get into Georgia Tech, there's another way to get where you want to go.

The Regents Engineering Transfer Program can make an engineering degree doable and affordable," said Dr. Anant G. Honkan, associate professor of engineering at Georgia Perimeter College.

The program allows Georgia residents to take their first two years of engineering course work at one of 14 participating Georgia University System institutions around the state. Upon successful completion of the program, students are admitted to Georgia Tech to complete their bachelor of science engineering degrees. Some of the transfer partner institutions near metro Atlanta include Gainesville College, North Georgia College & State University, Southern Polytechnic State University and West Georgia State University of West Georgia.

Perimeter College students have equal access to all engineering majors at Georgia Tech and are eligible for the popular CO-OP program, which allows engineering students to alternate semesters working in their field with classes.

Georgia Perimeter College is the newest school to become part of the RETP. "We have offered an associate degree in engineering for a long time and our students have successfully transferred to four-year schools, but our curriculum was officially accredited for RETP only," Honkan said.

Georgia Perimeter has a mix of full-time and part-time/working students enrolled in the engineering program, which offers courses

in the day and evening. RETP students will complete four science courses (including physics, chemistry and biology), five in math (including linear algebra and calculus) and four engineering courses, along with core courses of English.

The American government and composition. Those who aren't academically ready to begin core classes can take pre-core classes on Saturdays.

"One of the advantages of starting with us is that we have smaller classes taught by professors who have the time to give students more personal attention and help," Honkan said. "An introduction to engineering class at Georgia Tech might have 120 students; here it's more like 20. We prepare our students with the fundamentals, skills and study habits needed to successfully complete a baccalaureate engineering degree."

Lower tuition is another advantage. Full-time enrollment at GPC is about \$734 per semester. Some students qualify for the HOPE Scholarship and other forms of financial aid.

Students also benefit from GPC's commitment to incorporate technology in all its programs. "Our facilities are equipped with the latest computers and software," he said.

Additionally, the college has been chosen as one of six schools nationally to become a HP-MESA pilot site through its Hewlett-Packard Diversity in Engineering Initiative. HP recognizes the success of the MESA Community College Program (in California) to help educationally disadvantaged community college students attain

computer science and engineering degrees.

"We've received a grant for desktop and wireless laptop computers for the center and our students will have access to extra tutoring, skills workshops and other program supports," Honkan said.

Engineering opens the door to many career fields — Honkan likes to remind his beginning students that President Jimmy Carter was an engineer. The demand is particularly strong for electrical, computer, aerospace and structural engineers at the moment, as older engineers near retirement. Starting salaries average in the low to mid-\$40,000s.

According to aerospace engineer Theodore Von Karman, "Scientists discover the world that exists; engineers create the world that never was."

"If you enjoy knowing how things work, if you like to assemble things, like computer and video games (which require logic and motor skills) and work well with others, you might have an engineering mindset," Honkan said.

"It's definitely worth talking to an adviser about the GPC-RETP curriculum. You don't have to be brilliant. What it requires is hard work and patience," he added.

For Georgia Perimeter College engineering information, call 404-299-4000 or visit www.gpc.edu/~clamcse/engineering.html.

To learn more about the RETP, see www.coe.gatech.edu/academics.retp.php.



Resources for students

- MESA : Academic Excellence Workshops, tutoring sessions
- Campus-wise Learning and tutoring center
- CLACEC:
- field trips, projects, guest speaking events, conference presentations

