



STEVENS
INSTITUTE *of* TECHNOLOGY
THE INNOVATION UNIVERSITY[®]

Graduate Education at Stevens: Challenges and Opportunities

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The Stevens Graduate School

Graduate programs at Stevens are very large for a university this size, and have experienced significant growth in the past several years:

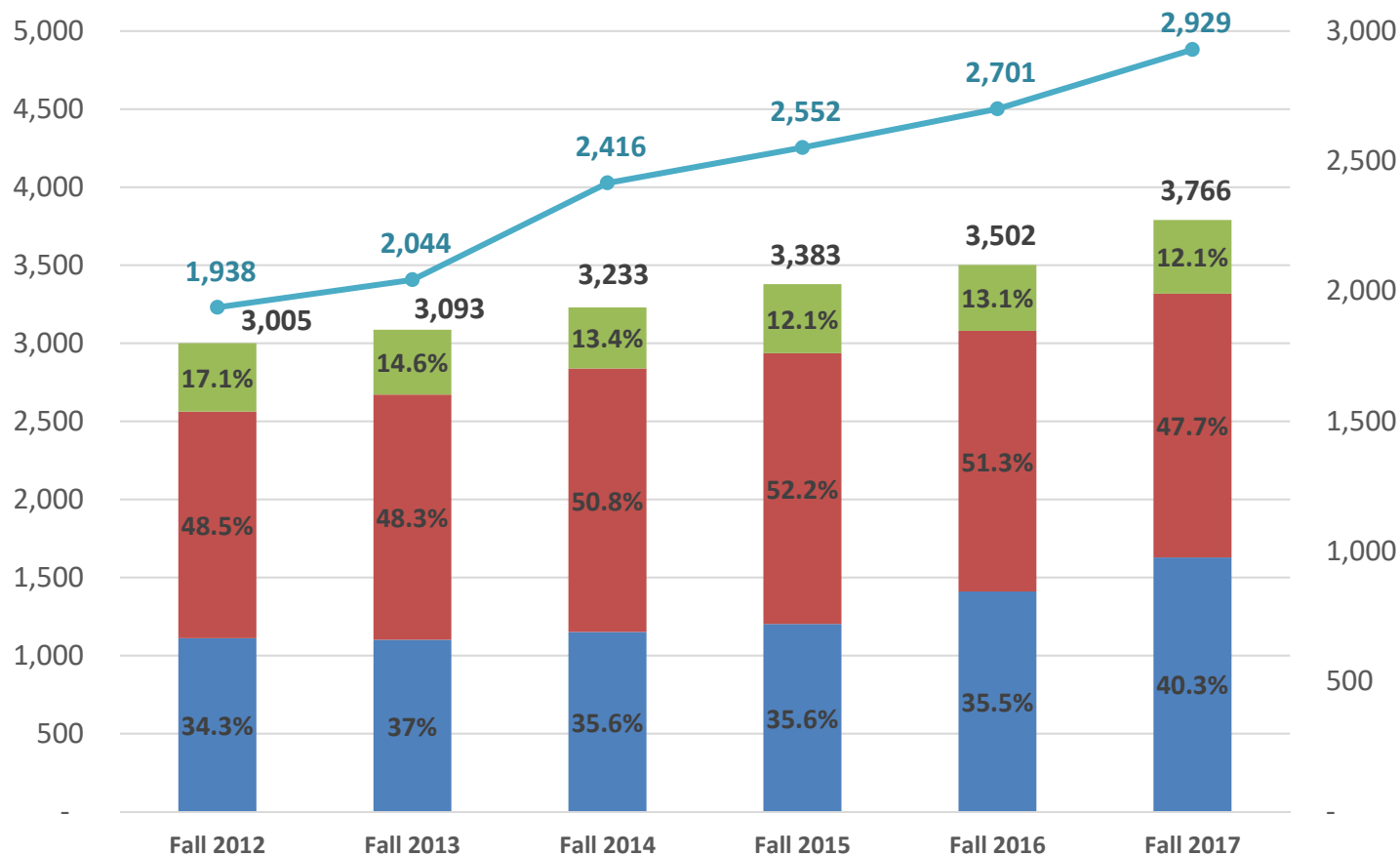
- Predominantly professional master's programs
- Ph.D. students make up only 10% of the 3,484 students in Fall 18*
- 15th largest producer of engineering master's degrees in the US as of 2017 (down from 6th in 2016)
- Disproportionally international (56% overall and 85% full-time), with the lion's share from China (57% of international) and India (33% of international)
- School of Business enrollment is up in recent years to 42% (39% FTE) of Stevens total in Fall 18*
- School of Engineering and Science (SES) enrollment = 44% (50% FTE)
- School of Systems and Enterprises (SSE) enrollment = 14% (11% FTE)

*Fall 2018 results are as of 9/17/18 and exclude CAL/Interdisciplinary enrollments
FTE = Full-time Equivalent



Steady Growth of Graduate Enrollments

Between Fall 2012 and Fall 2017, graduate enrollment increased by 25% in headcount and 51% in full-time equivalent.



Notes:

- Data is calculated for each fall semester as denoted below.
- FTE = Full-time equivalent, fall headcount-based.

■ SB ■ SES ■ SSE ● FTE



Stevens' Reliance on Graduate Tuition

Graduate tuition revenues are large and have increased sharply in recent years, commensurately with enrollment:

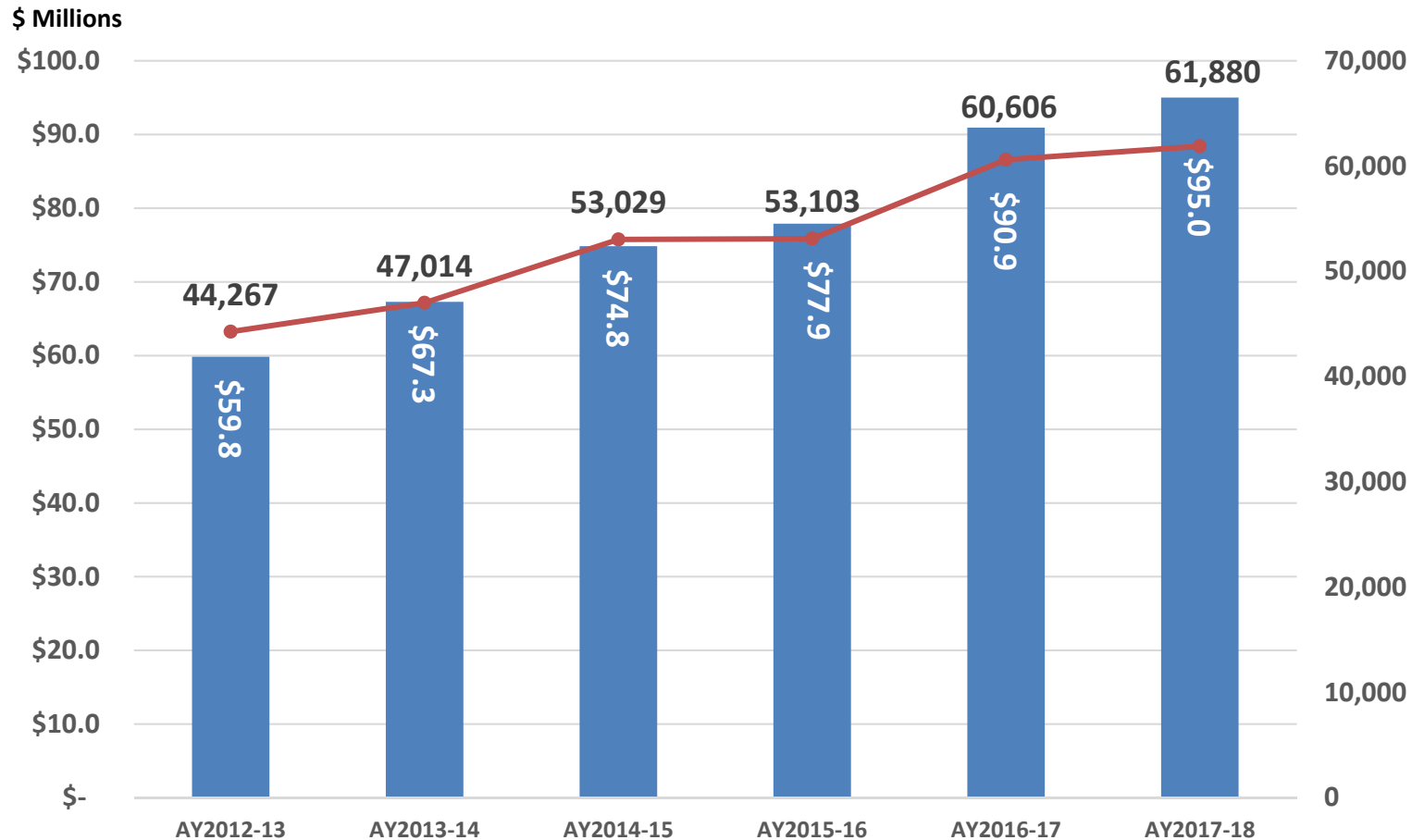
- At approximately 10% of revenues, graduate financial aid (including discounts) remains minimal
- For FY18, \$89.4MM in net graduate tuition revenue was 51% of total net tuition revenue and 35% of total operating revenue.
- Graduate tuition is a major, indispensable source of revenue
- Stevens is dependent on graduate tuition and especially on full-time international enrollments

*Fall 2018 results are preliminary as of 9/17/18 and exclude CAL/Interdisciplinary enrollments



Graduate Tuition Revenue and Credit Hours

Between AY12-13 and AY17-18, total credit hours increased by 40% and tuition revenue by 59%.



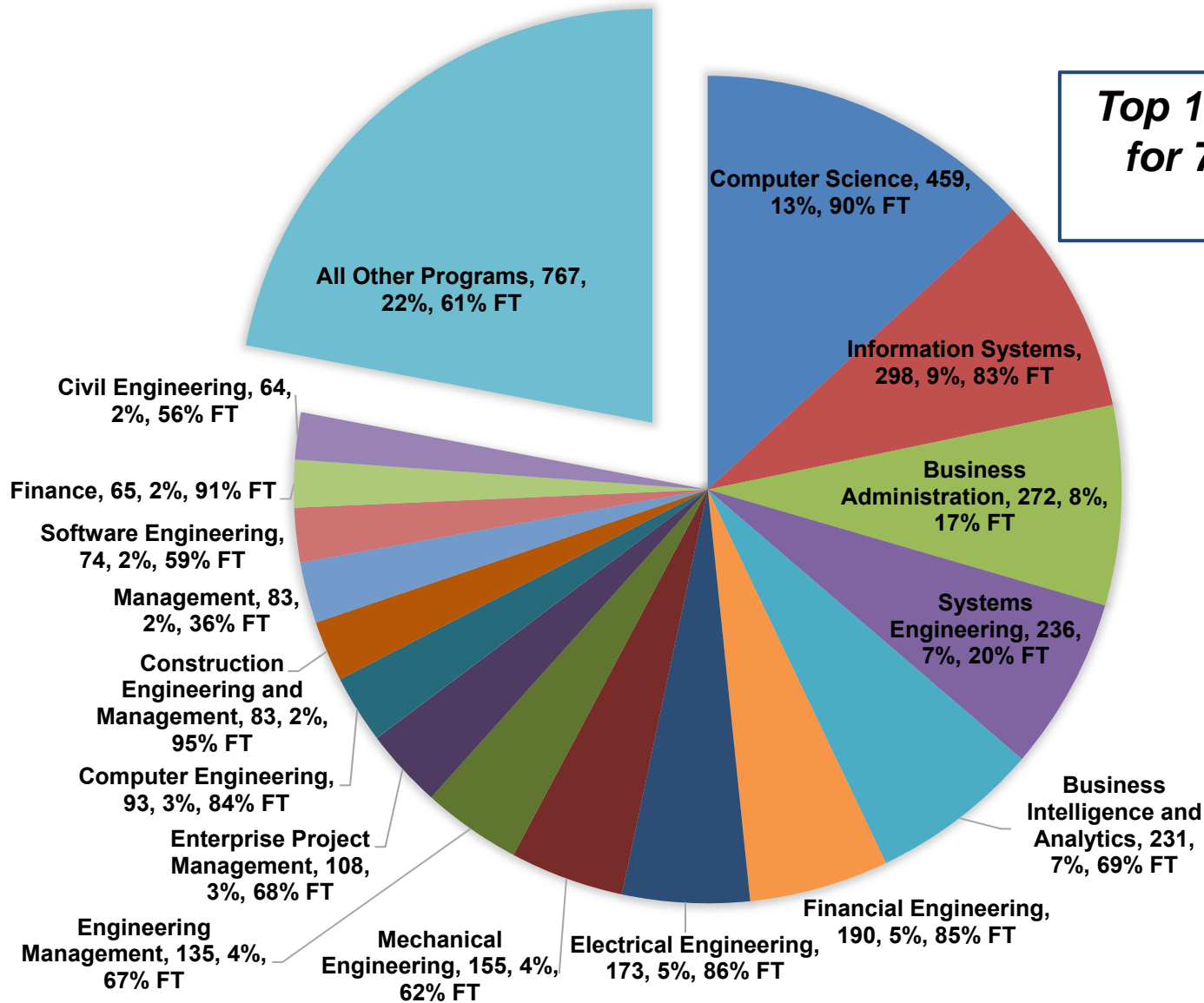
Notes:

- AY = Academic Year
- Data is calculated for each academic year as denoted below.
- Tuition Revenue is gross graduate tuition excluding fees

■ Tuition Revenue ● Credit Hours



Fall 2018 Graduate Enrollment by Program



Top 16 programs account for 78% of all graduate students



2019 Graduate Program Rankings - Engineering



Methodology

Quality Assessment (40%)

- Peers (25%)
- Corporate Recruitment (15%)

Selectivity (10%)

- GRE Quantitative (6.75%)
- Acceptance Rate (3.25%)

Faculty Resources (25%)

- Student-Faculty Ratio (11.25%)
- NAE Faculty (7.5%)
- Ph.D. Degrees (6.25%)

Research Activity (25%)

- Research Expenditures (15%)
- Research Expenditure/Faculty (10%)

RANK	SCHOOL (157 Schools Ranked, 219 Reviewed)
1	MIT
2	Stanford
3	UC – Berkeley
4	Caltech, Michigan
6	Carnegie Mellon
12	Columbia
17	Princeton
37	Northeastern
41	RPI & NYU
50	Case Western
52	Rutgers & Dartmouth
61	Lehigh
75	Stevens, RIT, Syracuse, Central Florida, Washington State, Auburn, Oregon State
88	WPI & NJIT

RANK	Departments
84/129	Biomedical/ Bioengineering
90/126	Chemical
89/150	Civil
73/145	Computer
96/183	Electrical
76/95	Environmental
69/107	Materials
97/179	Mechanical
39/92	Systems
23/93	Online Engineering
11/55	Online Computer Information Technology

List includes top 5, **peer** and competitor schools.



2019 Graduate Program Rankings - Business



Methodology

Quality Assessment (40%)

- Peers (25%)
- Corporate Recruitment (15%)

Selectivity (25%)

- GMAT (16.25%)
- Acceptance Rate (7.5%)
- Mean GPA (1.25%)

Placement Success (35%)

- Mean Starting Salary (14%)
- Employment Rate at Graduation (7%)
- Employment Rate 3-months (14%)

RANK	SCHOOL (126 Schools Ranked, 475 Reviewed)
1	Harvard, Chicago
3	UPenn
4	Stanford
5	MIT
9	Columbia
13	NYU
15	Cornell
17	Carnegie Mellon
44	Rutgers
55	Case Western
59	Northeastern
63	Fordham
70	Syracuse
73	RIT
RNP	Stevens
NR	WPI, RPI, Lehigh

RANK	Individual Programs
193/279	Part-Time MBA
NR	Finance
NR	Information Systems
28/165	Online Business
47/282	Online MBA

RNP: ranked in the bottom 25% of the 126 ranked schools and for editorial reasons a rank isn't listed.

NR: not enough information was submitted to be evaluated.

List includes top 5, **peer** and competitor schools.



Recent Event: Fall 2018 Enrollment Drop

<i>as of 9/17/18</i>	Applications			Admits			Enrolled		
	Fall 2018	Fall 2017	% Change	Fall 2018	Fall 2017	% Change	Fall 2018	Fall 2017	% Change
Total New (including StevensOnline)	8,287	8,283	0.0%	4,932	5,053	-2.4%	1,174	1,452	-19.1%
Total New (excluding StevensOnline)	7,933	8,143	-2.6%	4,765	4,948	-3.7%	1,095	1,425	-23.2%
FT Master's Domestic	431	455	-5.3%	318	332	-4.2%	159	195	-18.5%
FT Master's International	6,417	6,469	-0.8%	4,060	4,138	-1.9%	639	757	-15.6%
Total Full-Time Master's	6,848	6,924	-1.1%	4,378	4,470	-2.1%	798	952	-16.2%
Ph.D. Domestic	145	166	-12.7%	55	63	-12.7%	18	25	-28.0%
Ph.D. International	657	716	-8.2%	126	152	-17.1%	31	53	-41.5%
Total Ph.D.	802	882	-9.1%	181	215	-15.8%	49	78	-37.2%
StevensOnline	354	140	152.9%	167	105	59.0%	79	27	192.6%
PT Master's / Graduate Certificates*	283	337	-16.0%	206	263	-21.7%	159	263	-39.5%
Non-Degree							89	132	-32.6%
Total New + Returning Headcount (excluding StevensOnline)							3,347	3,739	-10.5%
Total StevensOnline New + Returning Headcount							137	27	407.4%
Total New + Returning Headcount (including StevensOnline)							3,484	3,766	-7.5%

- Total applications excluding StevensOnline decreased by 2.6%
 - Overall international applications down 1.7% - China down 8% and India up 7%
- Total admitted students excluding StevensOnline decreased by 3.7%
 - Ph.D. admittances down 15.8% overall
- Total new student enrollment excluding StevensOnline down 23.2%; including StevensOnline down 19.1%
 - New and returning student headcount excluding StevensOnline down 10.5%; including StevensOnline down 7.5%

*PT Master's / Graduate Certificate numbers exclude StevensOnline



Fall 2018 Enrollment by School

<i>as of 9/17/18</i>	Applications			Admitted			Enrolled		
	Fall 2018	Fall 2017	% Change	Fall 2018	Fall 2017	% Change	Fall 2018	Fall 2017	% Change
School of Engineering and Science	4,411	4,509	-2%	2,505	2,664	-6%	556	646	-14%
School of Business	3,141	3,167	-1%	1,859	1,989	-7%	442	665	-34%
School of Systems and Enterprises	715	593	21%	563	395	43%	176	139	27%
TOTAL New Headcount*	8,287	8,283	0%	4,932	5,053	-2%	1,174	1,452	-19%
TOTAL New + Returning Headcount							3,484	3,766	-7%

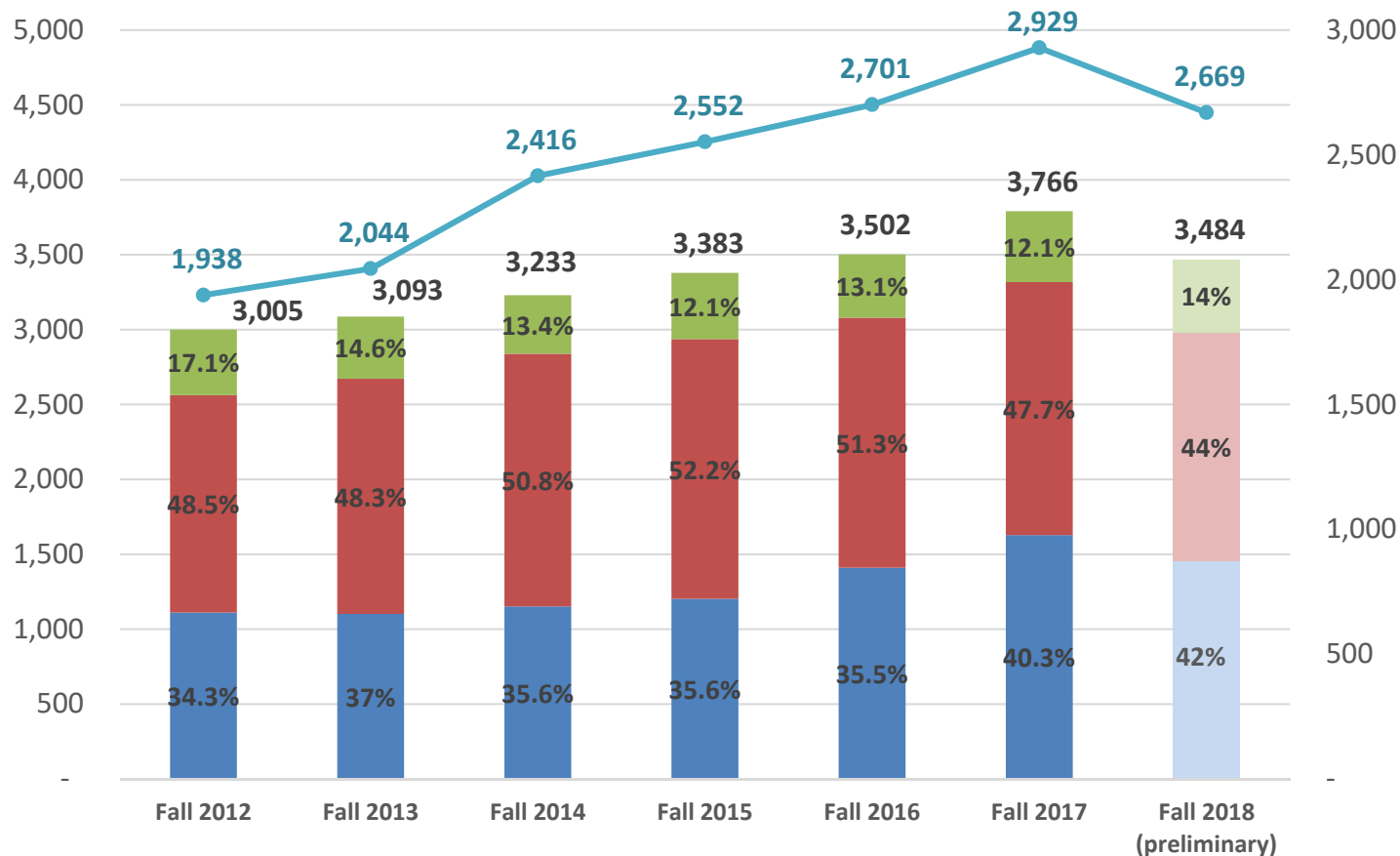
<i>as of 9/17/18</i>	Admit Rate			Yield		
	Fall 2018	Fall 2017	Change	Fall 2018	Fall 2017	Change
School of Engineering and Science	57%	59%	(2.3)	22%	24%	(2.1)
School of Business	59%	63%	(3.6)	24%	33%	(9.7)
School of Systems and Enterprises	79%	67%	12.1	31%	35%	(3.9)
TOTAL New Headcount*	60%	61%	(1.5)	24%	29%	(4.9)

*includes interdisciplinary + CAL admissions data not listed above and as a result, the sum of the three schools will not add up to the total



Departure from Growth: Graduate Enrollment

In Fall 2018, new graduate enrollment dropped by 19.1% in headcount and total graduate enrollment dropped by 7.5%, signaling the end of a multi-year trend.



Notes:

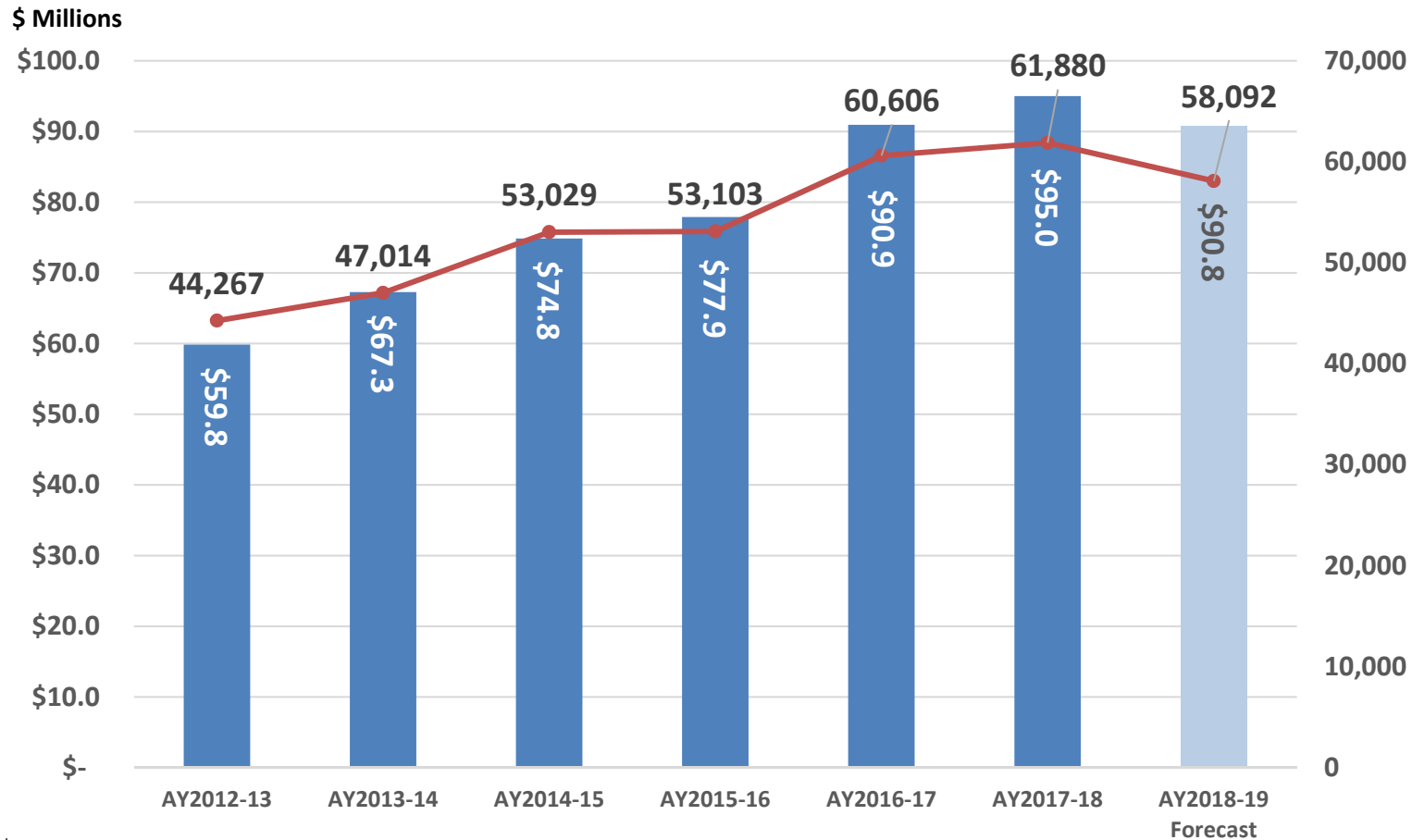
- Data is calculated for each fall semester as denoted below.
- Fall 2018 enrollment is preliminary as of 9/17/18, based on current enrollment projections for graduate.
- FTE = Full-time equivalent, fall headcount-based.

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Effect on Credit Hours and Tuition Revenue

In FY 2019, a drop of \$4.2MM (4% decrease vs. FY 2018) in graduate tuition revenues is forecasted, along with a 3,788 drop (6% decrease) in total credit hours.



Notes:

- AY = Academic Year
- Data is calculated for each academic year as denoted below, as of 9/17/18.
- Academic year 2018-19 tuition revenue is based on current forecast for graduate.
- Tuition Revenue is gross graduate tuition excluding fees



Fall 2018 New Enrollment Change

sorted descendingly on new enrollment



Program	2017F	2018F	% Change
Computer Science	195	192	↓ -2%
Business Intelligence and Analytics	153	87	↓ -43%
Information Systems	134	89	↓ -34%
Business Administration	97	38	↓ -61%
Financial Engineering	94	56	↓ -40%
Electrical Engineering	76	57	↓ -25%
Mechanical Engineering	61	43	↓ -30%
Engineering Management	60	48	↓ -20%
Systems Engineering	53	67	↑ 26%
Management	48	42	↓ -13%
Enterprise Project Management	43	39	↓ -9%
Construction Engineering and Management	36	30	↓ -17%
Civil Engineering	36	29	↓ -19%
Computer Engineering	30	37	↑ 23%
Finance	29	26	↓ -10%
Software Engineering	14	41	↑ 193%
All Other Programs	293	253	↓ -14%
TOTAL	1,452	1,174	↓ -19%



Key Areas of Concern and Challenges

- Excessive reliance on graduate tuition revenues
- Historically, Stevens has invested little in graduate recruitment, financial aid, student experience or career placement
- Strong dependence on international students and especially those from China and India
 - Deterioration of the political climate for foreign students
 - Must diversify country of origin, while international recruitment is more competitive
- Softening of the Business School market
 - In a recent WSJ article, GMAC reported a 7% decline in applications for traditional two-year MBA programs at U.S. business schools between 2018 and 2017 (11% for international students and 2% for domestic students).
 - The Council of Graduate Schools reported an 11% decline in new student enrollment in Business field of study between Fall 2017 and Fall 2016.
- With mediocre selectivity (60% admit rate and GRE-Q score of 162 in Fall 18*), we are more susceptible to a drop in international student demand than top research universities.
- Insufficient domestic enrollment
 - The strong economy makes it hard to recruit domestically
 - Competition including online is fierce for these students
- Stevens graduate program rankings are weak and as result makes us more susceptible to external factors.

*Fall 2018 results as of 9/17/18



Opportunity: StevensOnline

- Launched in Fall 2017, StevensOnline is structured to offer fully online degree and certificate programs.
- 157 StevensOnline students are currently enrolled, from across the country and a handful of international students
- Current offerings include 20 master's degrees and 40 graduate certificates, which take advantage of online courses already offered to our full-time graduate and undergraduate populations.

Top Programs in Year 1:

Major	Number of Students
Systems Engineering	27
MBA	19
Engineering Management	14
Computer Science	13
Information Systems	10
Network Communication	10
Software Engineering	9
Business Intelligence & Analytics	8
Space Systems Engineering	8



Opportunity: StevensOnline

- 6 million students in higher education take at least one online course
 - 3 million students take exclusively online graduate courses
- Online enrollments have increased each year since 2002
- Distance enrollments are primarily local
 - 55% live in the state where they take classes (69% in NJ, 47% in NY)
 - Less than 1% are international
- Competitor universities with largest online enrollment:



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Source:

Data obtained from various Babson Survey Research Group Reports:

- Grade Increase: Tracking Distance Education in the US
- Digital Learning Compass Distance Education State Almanac 2017



StevensOnline Rankings



7-time Winner - 21st Century Award for Best Practices

3rd Online Management Programs (Best Colleges 2018)

4th Online Information Systems (Best Colleges 2018)

5th Online Management (College Choice 2017)

7th Online Computer Science (Best Computer Science Schools 2017)

10th Online MBA (Online MBA Today)

11th Online Computer Science (College Choice 2017)

11th Best Online Graduate Information Technology (US News 2018)

23rd Best Online Graduate Engineering Program (US News 2018)

28th Best Online Graduate Business Programs Non MBA (US News 2018)

47th Best Online MBA Programs (US News 2018)



Immediate and Long Term Goals

- Review all existing processes and structure of the Office of Graduate Admissions (OGA) and the Schools and make recommendations on structural and workflow changes
- Revamp timeline and plan for each School, customized for master's and Ph.D. students including recruitment goals and targets, application deadline, application review period, decision release, and personalized yield activities
- Focus on growing StevensOnline and implement business plan recommendations including right pricing of online tuition
- Develop more systematic corporate and alumni tuition discounts
- Offer more, better structured financial aid to full-time master's and Ph.D. students
- Market and launch newly approved online graduate programs in Artificial Intelligence, Machine Learning, and Data Science



Immediate and Long Term Goals

- Develop robust real-time reporting for all stakeholders
- Launch new digital advertising campaign nationally and regional-specific ones
- Engage with lead generation and marketing companies such as EAB/Royall with a focus on on-campus programs and StevensOnline
- Partner with international vendors to assist with overseas recruitment, such as agents and specific international online education firms
- Create a best-in-class career center for graduate students, with presence in business and engineering
- Enhance current graduate student life and student support services, including advising
- Establish productive domestic and international partnerships for coordinated academic program launches



Graduate Ranking Goals

- *Immediate term:* accept as many students as qualified into the graduate programs
 - Maintain focus on the other ranking metrics, such as quality (GRE, GMAT), placement, Ph.D. and research
- *Immediate term:* identify a plan and begin implementation for each School to achieve the rankings goal by 2022
 - Top 50 in Best Engineering Graduate Schools (School of Engineering and Science)
 - Top 90 in Best Business Graduate Schools (School of Business)
 - Top 20 in Best Industrial/Manufacturing/Systems Engineering Programs (School of Systems and Enterprises)
- *Immediate term:* continue to recruit top faculty and building out our research-graduate enterprise
- *Longer term:* once the graduate enrollments stabilize and structure is defined centrally and with the Schools, focus on selectivity