

# STEM Center Report



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July 25, 2013

In this document are some data on scholarship, internships, enrollment, and retention, with explanations provided as needed.

The STEM Center can only claim inferred or indirect responsibility for the growth or success. The STEM team has made an impact and has strengthened the STEM program and student success through our grant-funded programs, tutoring, mentoring, community building, events, scholarship/internships awarded internally, and assisting students with external application for transfer, scholarships, and internships.

The data in this report tend to be event specific, tracking in the impact of Math Jam on next semester course or attitudinal changes of students after attending STEM Speaker Series, for example. The STEM Center is developing a STEM database and will eventually be able to track longitudinally which activities/engagements are predictors/indicators of student success. For now, it can be stated that the work of the faculty, staff, and students at the STEM Center are part of the reason behind the success of STEM programs at Cañada College, but that these numbers reflect the work of the Center in conjunction with all of the faculty, staff, and students at the campus, as well as the general push for STEM in this country.

### ***Student participation at conferences***

In terms of conferences, the STEM Center has taken students to the follow conferences every year for the last six years:

- MESA Student Professional Development Conference: 2 days, for engineering and computer science majors from 2-year and 4-year universities with MESA programs, sponsored by industry and Statewide MESA office
- MESA Student Leadership Retreat: 2 days, 150+ community college STEM majors, sponsored by Statewide MESA office, SACNAS (Society for Advancing Chicanos and Native Americans in Science) and NASA
- Society of Hispanic Professional Engineers (SHPE) Regional Leadership Development Conference: a weekend conference, hosted by a 4-year university or professional chapter in Northern California. STEM majors who are part of the SHPE Student Chapter participate, approximately 10-15 students.
- UC Davis STEM Day: students visit the UC Davis campus for a day filled with workshops and info sessions for STEM majors
- CalPoly Engineering Day: students visit the Cal Poly San Luis Obispo campus and tour engineering labs, meet engineering students, and receive information from admissions advisors
- AMSA/ARC Pre-Med Conference: a fall conference for pre-med students, now held at UC Davis
- SUMMA Pre-Med Conference: a conference at Stanford University each February for underrepresented students interested in medicine

For the past 5 years, the Center has taken the students to a National conference each fall, either Society of Hispanic Professional Engineers Conference or SACNAS National Conference. One year the Center sent students to the Society of Women Engineers. For the past two years the Center has taken students to SACNAS National Conference, as well as:

- ASEE Robotics Competition (Engineering): the Cañada College Robotics Team has traveled to this conference
- ASEE Regional Meeting: engineering students have participated, presenting their research posters at the conference
- National Joint Mathematics Meeting – Prof. Michael Hoffman has taken a group of 4-5 students the past two years. Ideally this is for math majors who are advanced in their study of math. More information can be found at:  
[http://jointmathematicsmeetings.org/meetings/national/jmm2013/2141\\_intro](http://jointmathematicsmeetings.org/meetings/national/jmm2013/2141_intro)

Last year, the Center had 2 students present research posters at ABRCMS, the Annual Biomedical Research Conference for Minority Students. One won \$250 for his poster presentation.

In fall 2013, the Geoscience Conference presents a new opportunity and will probably involve 3-4 STEM majors and Prof. Susan Mahoney. The hope is that it will grow and become an annual trip for students majoring in environmental/earth science.

As dates are confirmed for these events, they are included in the NEWS page of the STEM Center webpage -- <https://www.canadacollege.edu/stemcenter/news.php>

### ***Overall enrollment numbers***

The data show the following trends, from the 2007-2008 academic year through the 2012-2013 academic year:

- STEM enrollment is up at Cañada College;
- Interest and engagement in STEM at the College is up;
- Success and self-efficacy in STEM at the College is up;
- Reputation of the programs at the College is up; and,
- External grant funding for STEM at the College is up.

STEM Enrollment has been steadily increasing over the past 5 years. In STEM specific courses there was a 43.6% increase in enrollment between fall 2008 (2690) and fall 2012 (3863), with significant gains in Engineering of approximately 200%. The abnormalities to the general trend occur in Biology courses (non-STEM, medical) and CIS (due to restructuring of course sequence).

Semester by semester fluctuations are due to course sequence offerings, so better to compare Fall to Fall and Spring to Spring. In the charts below, Total SciTech Enrollment refers to all courses under this division, including Health Sciences and Radiological Technology which are not considered STEM.

It is also important to note that there has been a shift in the levels of Math courses offered. Sections of remedial course offerings have declined, mirroring overall campus enrollment, while sections of upper-level Calculus courses has increased as a result of more STEM majors on campus.

*Retention and Success Rates:*

While the numbers of students studying STEM has dramatically increased, the College as a whole has maintained its retention/success rates. This is important due to the fact that the grants and programs have primarily recruited, supported, and encouraged under-represented students to study STEM, based on ethnicity, gender, first generation, low income, etc. The fact that retention/success rates have held strong during this period of rapid growth is a testament to the faculty, services, and support of the STEM Center.

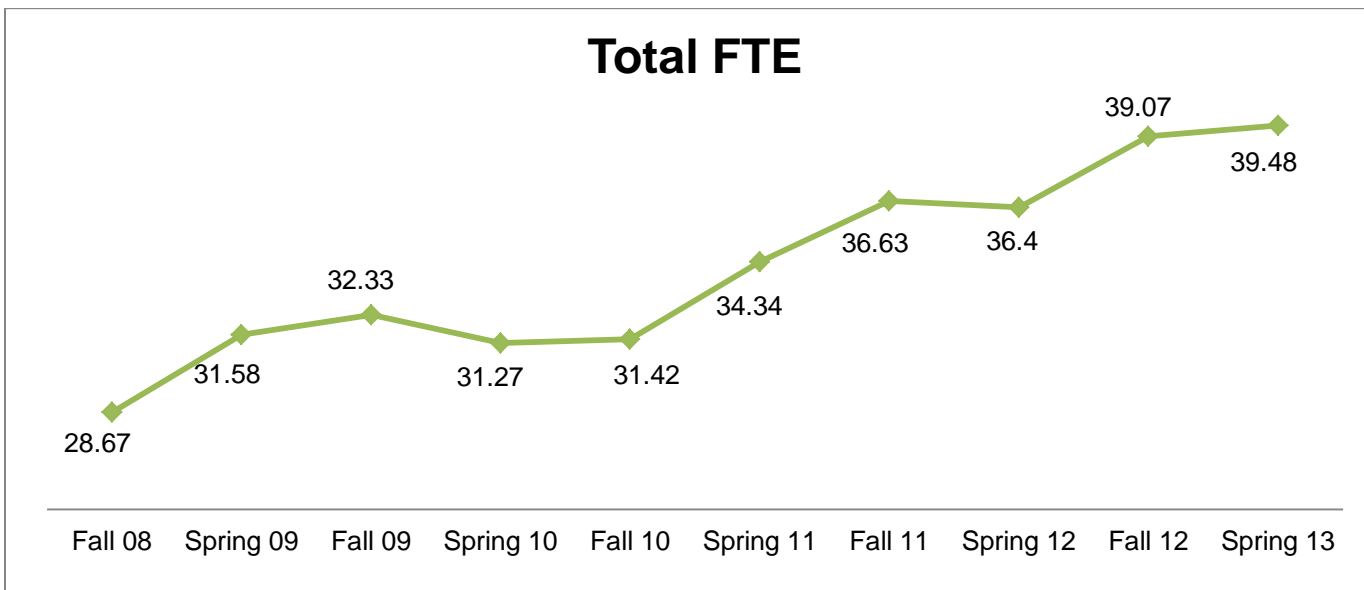
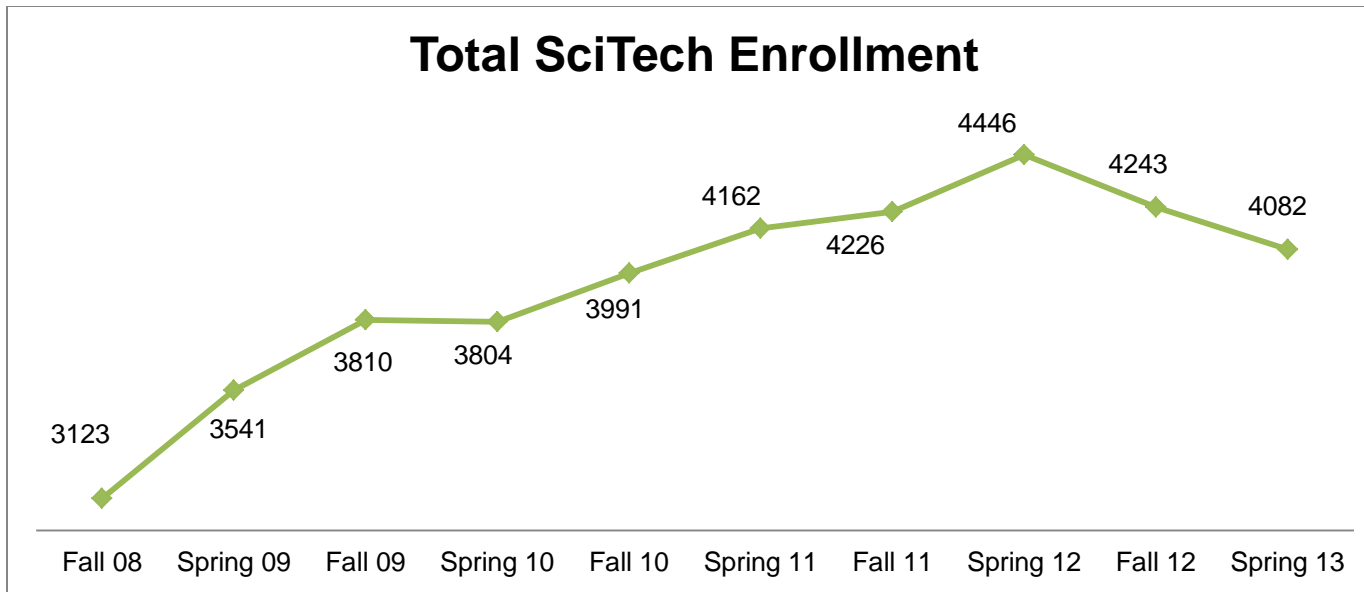
## Scholarships and Internships, AY 2007/2008-AY 2012-2013

	<b>STEM Students External Scholarships &amp; Internships</b>	<b>STEM Students Cañada Scholarships</b>	<b>STEM Center NSF Scholarships</b>	<b>Total STEM Student Scholarships</b>	<b># of STEM Student Internships</b>
<b>2007-08</b>	\$123,000	Included	n/a	<b>\$123,000</b>	<b>3</b>
<b>2008-09</b>	\$143,000	Included	n/a	<b>\$143,000</b>	<b>3</b>
<b>2009-10</b>	\$303,300	\$23,000	\$71,000	<b>\$397,300</b>	<b>5</b>
<b>2010-11</b>	\$203,000	\$21,000	\$138,000	<b>\$362,000</b>	<b>23</b>
<b>2011-12*</b>	\$100,000	\$25,000	\$154,179	<b>\$279,179</b>	<b>25</b>
<b>2012-13**</b>	\$187,199	\$48,865	\$155,215	<b>\$391,279</b>	<b>39</b>
				<b>\$1,695,758</b>	

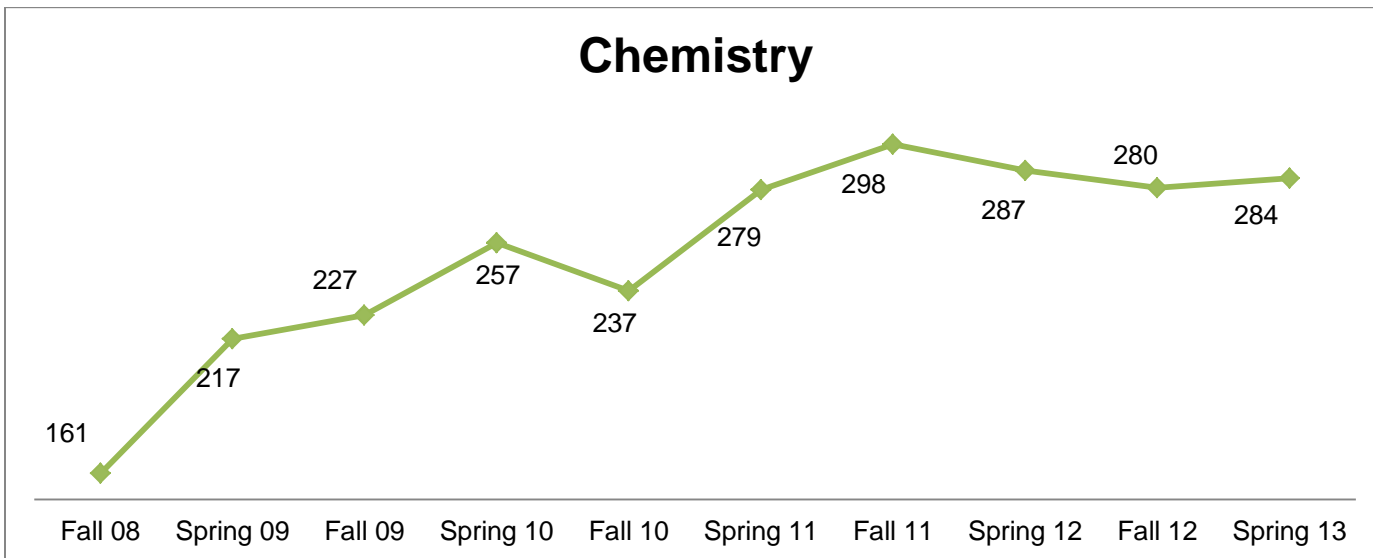
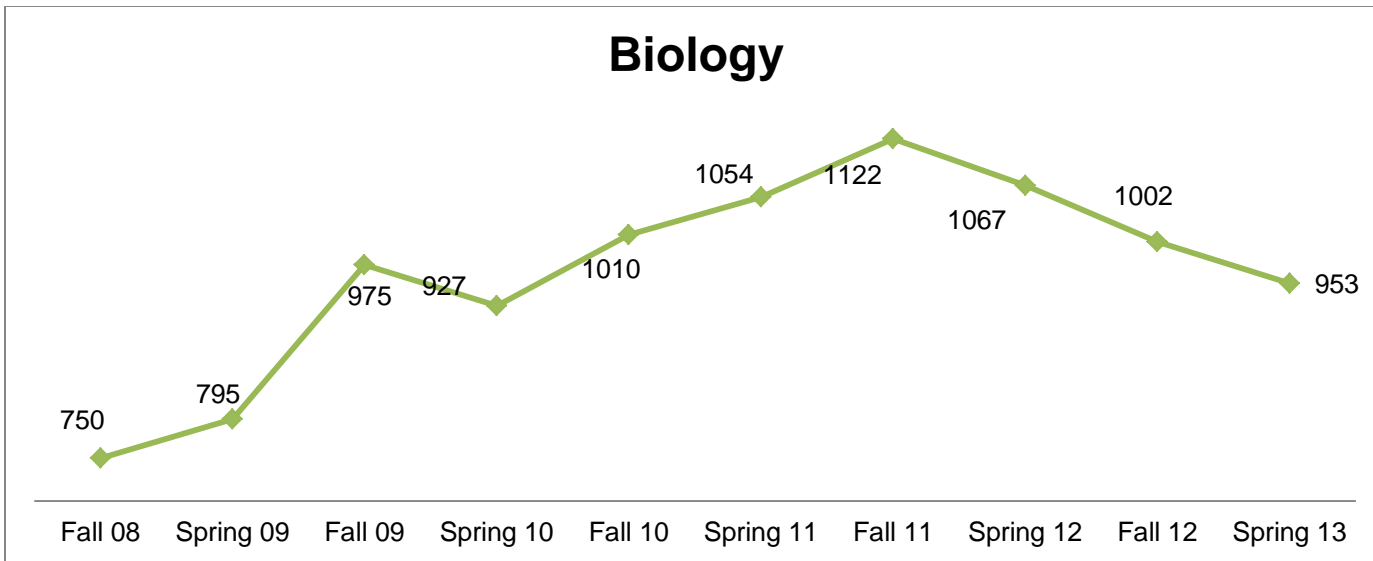
\* STEM Cipair Program and VEAP

\*\* STEM Cipair Program and STEM Center Internships

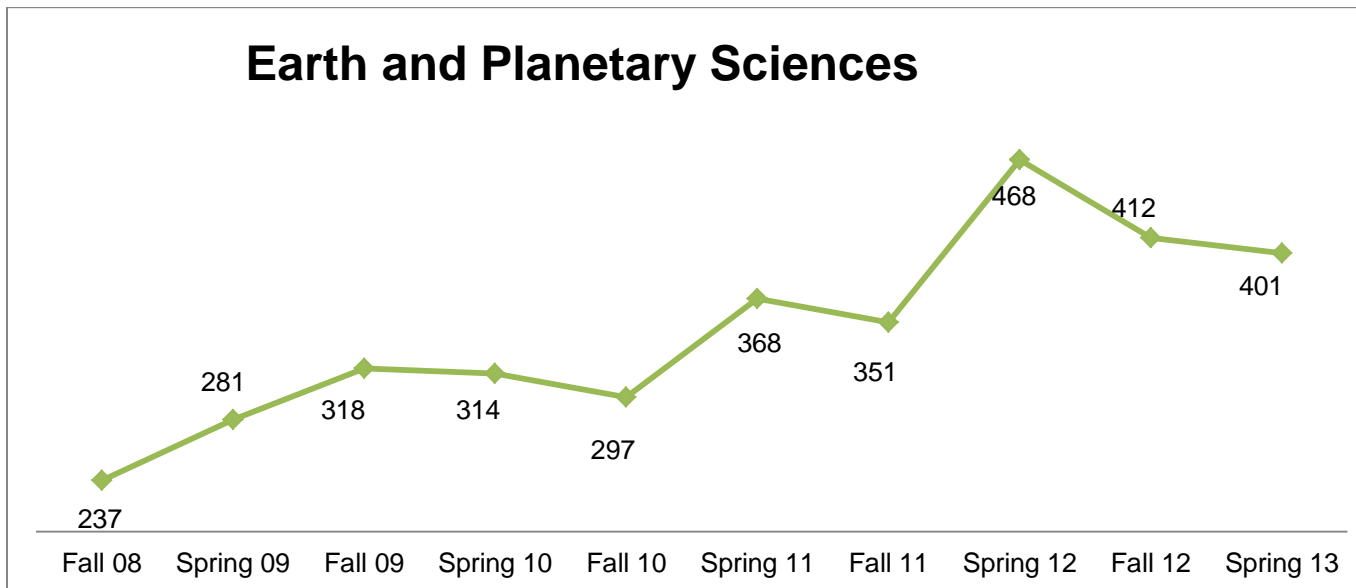
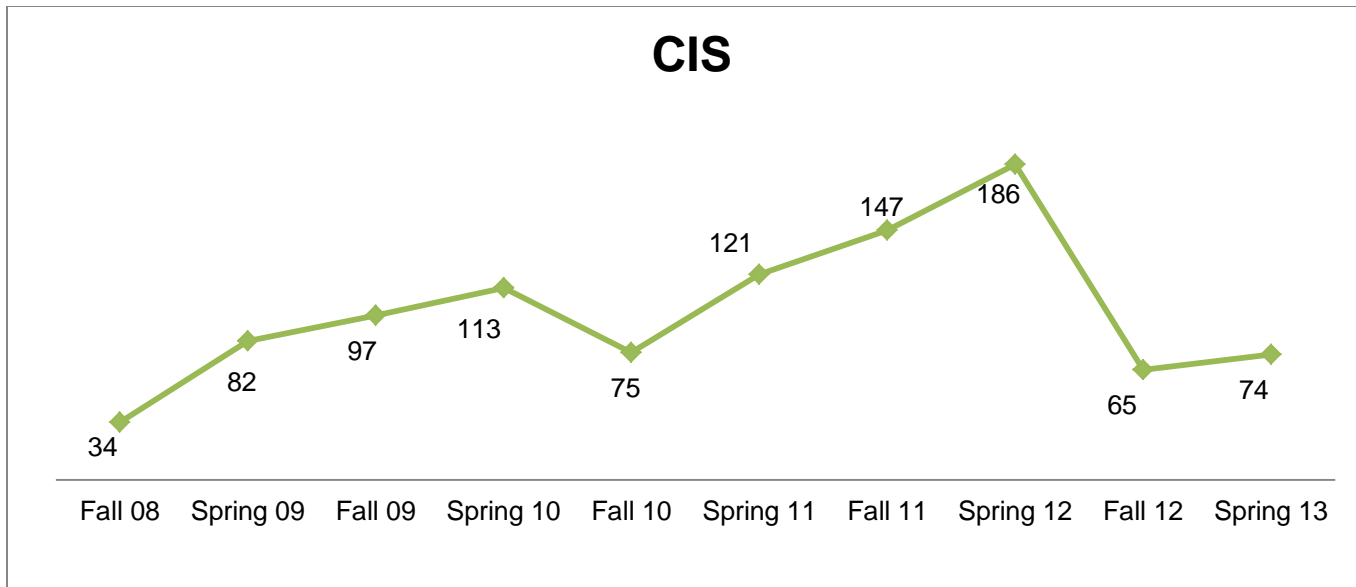
# Enrollment in STEM Courses, Fall 2008-Spring 2013



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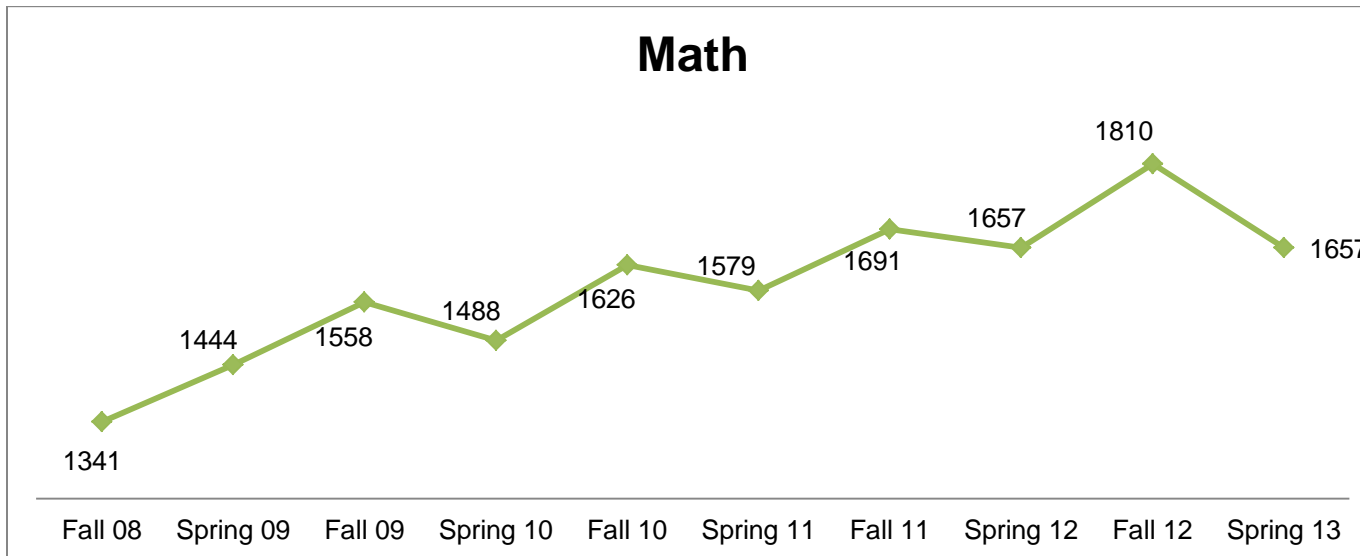
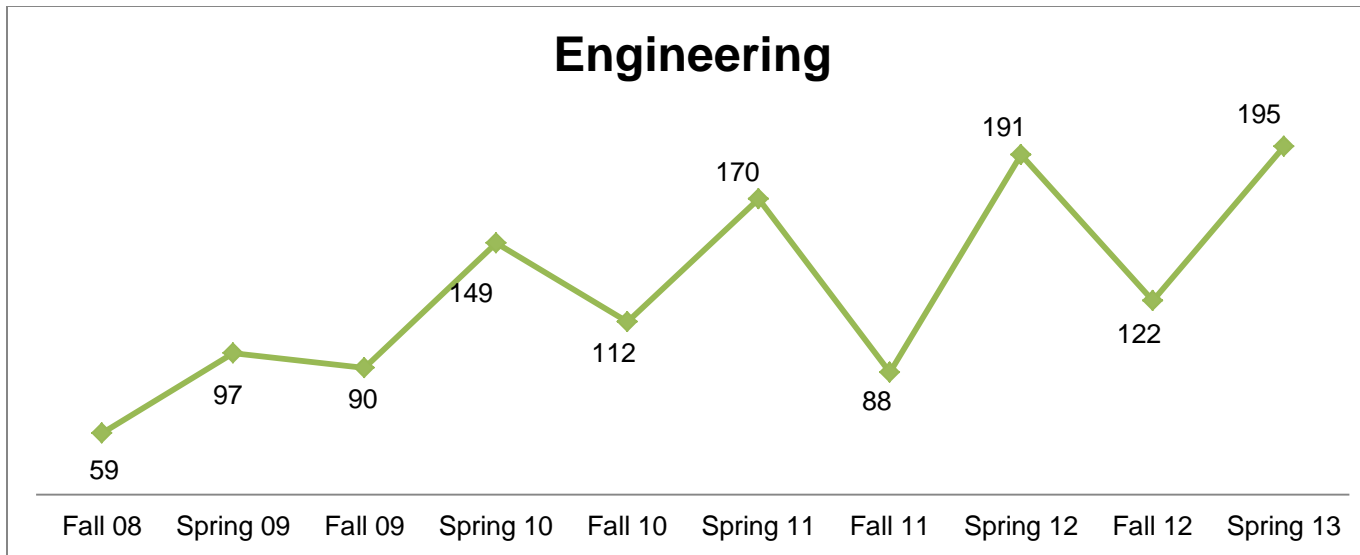


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