

## A brief history of the new academic policies

TIM LIU  
Arc Chair

The Registrar's Office recently announced a new set of unit requirements governing overloads, underloads, and the minimum number of units required for academic eligibility.

The full description of the unit changes was emailed out to students by the Registrar's Office and can be viewed in the 2016-17 Catalog (pages 194-197). To summarize, students wishing to take over 48 units a term must get approval from their advisors while students wishing to take over 51 units must petition the Deans. The 45 unit cap on academic units remains in place for freshmen on pass-fail. Finally, the ineligibility line has fallen from 33 to 27 units. Students still must register for at least 36 units each term [1], but will remain academically eligible so long as they pass 27 units [2].

How did these academic changes come about, and what do they mean for students? This article covers how the changes were made, why they were implemented, and some of their implications for students.

### Where the Changes Came From

In 2012, a 4-year tuition requirement was created. Starting with the class of 2016, students were required to pay 12 terms of tuition to be eligible for a bachelor's degree. Students who wished to graduate early had the option of submitting a petition to be exempt from the policy. The goal of the policy was to encourage students to remain at Caltech for the full 12 terms rather than graduate early. More details on why the policy was originally implemented can be found in the June 2012 faculty board meeting minutes (the full story of the original 4-year tuition policy could take up its own entire Tech article. However, it is worth noting that raising more revenue was never a reason for the policy). After the policy was announced, it quickly became controversial among students.

In January of 2016, the Faculty Board and Student Affairs jointly created the Four Year Education Experience committee. Joe Shepherd, the Vice President of Student Affairs, and Richard Flagan, the Chair of the Faculty Board, organized the committee. According to supplemental meeting materials from the January 2016 faculty board meeting, the 4-year committee was charged with "examining the current graduation requirements and uniting system ... with the goal of enabling a

full 12-term undergraduate experience." The committee also sought to "encourage students to take reasonable loads and full advantage of a four-year educational experience."

The 4-year education committee was chaired by Professor Gil Refael and included Don Crewell, Dean Barbara Green, Mary Morley from the Registrar's office, Professor Mitchio Okumura, Professor Niles Pierce, Vice Provost Cindy Weinstein, and Professor Paul Wennberg. Throughout winter term, the committee studied the current graduation requirements and created a set of preliminary proposals.

On April 21, 2016, the 4-year committee met with several ARC members (including myself) and the IHC chair to seek student input. Prior to the meeting, ARC members asked students from several houses how the 4-year tuition policy had impacted their graduation plans. We received dozens of written comments about how the 4-year tuition policy had affected students. Our expectation was that the meeting would center on how to revise or remove the 4-year tuition requirement.

At the April meeting, we found that the 4-year committee had done more than narrowly revisit the 4 year tuition policy. The committee had tackled one of the original reasons behind the policy: how to encourage students to take a more balanced course load. The committee presented a set of proposed unit changes that were designed to discourage students from overloading or taking unreasonably difficult schedules. The unit changes presented at the meeting were largely identical to the current unit policies. One notable difference was that the proposed minimum eligibility line was originally 30 units. Following the meeting, the 4-year committee settled on 27 units as the minimum for academic eligibility.

The reasons for a 4-year graduation requirement have evolved over time but broadly fit into two categories. The first is to encourage students to take a more balanced workload. There has long been concern among faculty members that students take too many classes early in their Caltech career, and that this is causing excessive stress. The typical pattern is for students to take the most units per term during their sophomore year, with this number dropping drastically by senior year. One goal of a 4 year graduation requirement is to smooth out the workload and reduce the rate of

students burning out early in their careers.

The second reason is to encourage students to take full advantage of the "Caltech experience." Some faculty members feel that students who graduate early are not getting the most out of Caltech. The argument is that opportunities such as research are not being fully utilized by students who graduate early.

The unit changes from the 4 year committee were presented to the faculty board during the May 2016 faculty meeting. The proposed changes were "approved enthusiastically" by the faculty, and included in the 2016-2017 catalog.

### Overloading Changes

At face value, students have lost some freedom in deciding their course load. While students (minus frosh) used to be able to take up to 54 units without additional approval, this line has dropped to 48 units. However, the 48 unit line is not meant to be onerous or burdensome. According to Gil Refael, the expectation is that almost all requests to take over 48 units will be approved, and that the majority of students who wish to take up to 51 units will still be able to.

Taking more than 51 units will now require a petition to the Deans office (in the past, this line was 54 units). According to the 2016-17 catalog, "this policy is aimed at having no effect on currently recommended courses of studies in all options, while putting a very high bar for taking 6 full-time classes simultaneously." There is concern that the new requirements will make it more challenging to finish a second option or a minor.

### Academic Eligibility Changes

In the past, students had to pass at least 33 units a term to remain academically eligible. Students often had to scrape together PE or other classes to keep their heads above water. With the new changes, the UASH line has been dropped to 27 units, equivalent to three 9 unit classes. While students will still have to register for 36 units, they can do so knowing that dropping a class won't plunge them into ineligibility. For people who are required to take certain notoriously under unit classes, the new unit requirements are massively beneficial. With the new requirements, students are also required to pass at least 108 units over the past three trailing terms. This is an increase of 9 units compared to the previous guidelines, which effectively

required students to pass at least 99 units every three terms.

### Fate of the Four Year Requirement

Several changes have also been made to the 4-year graduation requirement. The 4-year tuition requirement first written in 2012 is now a 4 year residency requirement:

*A Caltech undergraduate degree is based on a four-year residential experience [3] (study abroad included) in which students have the time to explore their academic interests in a deep and rigorous way.*

P. 196 Catalog 2016-2017

The rules governing how tuition is charged have also been modified ("Undergraduate Expenses - p. 199 Catalog 2016-17). The following paragraph from the 2015-16 catalog:

*Students who graduate early, prior to 12 terms, will continue to be billed tuition for the full 12 terms. In addition, aid may not be disbursed to a student to cover tuition if they are no longer attending classes.*

P. 189 Catalog 2015-16

has been removed from the 2016-17 catalog. At a practical level, this corrects a potential misinterpretation of the rules for how tuition is billed. The wording in the 2015-16 Catalog erroneously suggested that students who successfully petitioned to graduate early would still be charged 12 terms of tuition. Hence, the above paragraph was removed from the latest catalog. The new wording makes it clear that students who successfully petition to graduate early will not continue to be charged tuition. In its place, the following paragraph has been added:

*Since a Caltech degree is based on a four-year residential requirement, entering students should expect to be in residence and to be billed tuition for a full four years. Any exceptions must be approved by the dean of undergraduate students and the vice president for student affairs. In addition, aid may not be disbursed to a student to cover tuition if they are no longer attending classes.*

P. 199 Catalog 2016-17

The new 4-year residency requirement removes a potential misinterpretation of tuition rules,

though this was not the main motivation for the change. Rather, the new rules are designed to be a clearer statement of Caltech's mission:

*Our mission is to educate the best scientists and professionals. The greatest benefit that Caltech has to offer towards such an education is research with its faculty. The new 4-year policy is aimed at making clear that a Caltech degree is not about completing a certain number of units. It is about giving our students the best opportunities to develop intellectually.*

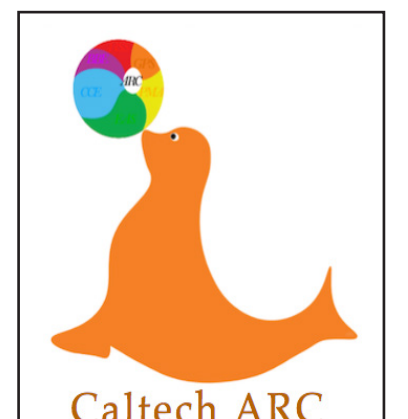
-Gil Refael

[1] The 36 unit minimum registration line is a requirement imposed by external factors. It comes from an agreement with the federal government relating to financial aid, and for practical purposes cannot be changed.

[2] Students must also maintain a cumulative GPA of 1.9 and pass at least 108 units in the past 3 terms to remain eligible. Students passing between 27-35 units (inclusive) a term will be required to meet with the Deans but will not become ineligible.

[3] "Residency" is defined as being a registered student. The 4-year residency policy does NOT require students to live in a house or in Caltech affiliated housing. Terms where students take an approved underload will also count towards residency. Leaves of absences for whatever reason will be handled on a case by case basis.

Minutes and supplemental materials from faculty meetings are available online at [oof.caltech.edu](http://oof.caltech.edu). Thanks to Gil Refael and Joe Shepherd, who were both consulted for this piece.



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# Caltech Y Column

## CALTECH Y

The Caltech Y Column serves to inform students of upcoming events and volunteer opportunities. The list is compiled by Katherine Guo from information given by the Caltech Y and its student leaders.

Founded by students in 1916, the Y was organized to provide extracurricular activities planned and implemented by students as an opportunity to learn leadership skills and discover themselves. The mission of today's Y remains the same—to provide opportunities that will prepare students to become engaged, responsible citizens of the world. The Y seeks to broaden students' worldviews, raise social, ethical, and cultural awareness through teamwork, community engagement, activism, and leadership. More information about the Caltech Y and its programs can be found at <https://caltechy.org>. The office is located at 505 S. Wilson Avenue.

Ongoing and past programs hosted by the Caltech Y:

Alternative Spring Breaks: Peru, Costa Rica, New York, Yosemite, San Diego, San Francisco

Make-A-Difference Day: Hillside Home for Children, LA County Arboretum and Botanic Garden, Children's Hospital Los Angeles (Coachart), Eaton Canyon, Lifeline for Pets

Explore LA: Lakers game, Next to Normal musical, Norton Simon Museum trip

RISE Tutoring program (an afterschool math and science-focused tutoring program that serves public school students between grades 8 and 12)

### Upcoming Events

#### 1. Caltech Y Closed - Monday October 3rd

The Caltech Y will be closed on Monday, October 3rd for our annual Golf Tournament. For more information please contact [caltechy@caltech.edu](mailto:caltechy@caltech.edu).

#### 2. Caltech Y Annual Golf Tournament & Auction

Monday | October 3rd | From 9:00 AM | Oakmont Country Club

On October 3rd, the Caltech Y will host its Ninth Annual Golf Tournament and Auction at the beautiful Oakmont Country Club in Glendale! With the participation of community members and business leaders, this event helps raise funds for an organization that has served the Pasadena and Caltech communities for the past 100 years!

##### Golfers Registration

Don't miss this very special opportunity to play at the exclusive Oakmont Country Club and support the Caltech Y programs like the Rise tutoring program, volunteer service events and other leadership activities.

For event details and golfers registration, please visit: Caltech Y Registration

##### Dinner and Auction

The fun continues after the 18th hole. Stay for the dinner and auction at the Oakmont Country Club and bid on vacation getaways, golf items, and dining certificates. Guests who bid on and win items not only get great deals but are supporting a great cause!

To register for Dinner and Auction, please sign up: Caltech Y Auction

#### 3. Rise Tutoring Program

Monday - Thursday | 4:00 - 6:00 PM | Winnett Lounge

The Caltech Y Rise Program is currently accepting new tutors for the fall term. The Rise Program is an after school math and science-focused tutoring program that serves

public school students between grades 8 and 12 who are struggling in math and science (receiving a C+ or below in either subject).

The tutoring takes place on the Caltech campus Monday-Thursday from 4pm - 6pm. Tutors are matched with 1-2 students and will ideally work with the same student for the whole year. Tutors commit to 1-2 days per week for at least 2 terms out of the year. Schedule changes can be accommodated throughout the year. This is a great way to volunteer without having to leave campus. For more information about the program and to apply please visit our website at:

[https://caltechy.org/programs\\_services/tutoring/Resources/](https://caltechy.org/programs_services/tutoring/Resources/)

#### 4. Hathaway Sycamores Tutoring

Mondays through Thursdays | 5:30 - 7:30 PM | Highland Park

Volunteer at Hathaway Sycamores, a group that supports local underprivileged but motivated high school students. There are a variety of ages and subjects being tutored. The service trip includes about an hour of travel time and 2 hours of tutoring. Transportation is included. For more info and to RSVP email Sherwood Richers at [srichers@tapir.caltech.edu](mailto:srichers@tapir.caltech.edu).

#### 5. Backpack San Geronio

Saturday-Sunday | October 8th-9th | Sat 6:30 AM - Sun 6:00 PM | Cost : \$15

Kick-off the year with a strenuous backpacking trip! We'll be hiking up San Geronio, a 11,503ft mountain in the San Bernadinos. It's 18.5 miles over two days, with elevation gain of 5390ft. The plan is to hike up, camp on top of the mountain, and head down the next day. We will leave from the Caltech Y (505 S. Wilson, across the street from Kerckhoff) at 6:30am on Saturday October 8th, and we expect to be back on campus at around 6:00pm the next day. Expect freezing temperatures at night, and incredible views from the top of the mountain at sunset.

To sign up, fill out the form at <https://goo.gl/forms/abAggmLPvY15YUIh2> and contact Jeremy Brouillet ([jbrouillet@caltech.edu](mailto:jbrouillet@caltech.edu)) if you have further questions.

#### Other Announcements - Beyond the Caltech Y

##### Pasadena Highschool Science Fair Club

This Science Fair Club is looking for someone, or ones, to come to Thursday lunch meetings, whenever he/she/they can, and discuss with the students about their science and engineering projects. No preparation is needed. One should just enjoy talking with, and guiding, high school students. A grad student served as a mentor last year and he was a great asset.

Please email Karen Jain [jain.karen@pusd.us](mailto:jain.karen@pusd.us) to volunteer.

##### Eliot School Math Field Day Coach

Math Field Day is a district wide competition in the spring that has students compete in teams of four, with one alternate per team. Each grade from each school has 2 teams. So Eliot would have 2 teams from 6th, 7th and 8th grade each. The subject matter is the Common Core State Standards for math applied to challenging real world applications. Students must work in teams and scores are graded on a rubric of assessment.

The coach would meet in a classroom with a specific grade level, so we are hoping to have 3 MFD coaches. A teacher will be present but will not necessarily be a math teacher.

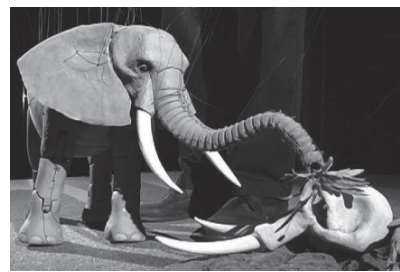
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## Message from the BoC Chair

KATE EVANS  
BoC Chair

When it comes to Board of Control (BoC) cases, it's becoming increasingly apparent that people are confused about how collaboration and the Honor Code fit together. In courses that have vague guidelines such as "collaboration with other students is allowed," students have trouble establishing when working together goes too far. Some professors have guidelines that further clarify their expectations for course work; for professors that do, follow their directions and the BoC will as well. But if your course doesn't have a detailed policy, the BoC adopts a standard for acceptable collaboration, which distinguishes appropriate group work from taking advantage of other students.

The four points that we'd like to make sure all Caltech students are aware of are as follows: First, you must understand your entire solution, and be able to reproduce it if

necessary. Second, complete solutions, down to each detail necessary for submission, should not be distributed, shared, or solicited amongst collaborators. Thirdly, previous years' solution sets or answer keys for a course are to be considered off limits unless given explicit permission by the instructor. Finally, any resource heavily utilized, outside of course resources (ie, textbook, course notes, course lectures), should be cited.

These guidelines are for you to check your own work habits, not just for the BoC to use as a standard in cases. With regards to the first point, the BoC will not ask you to reproduce a solution you'd written earlier as a part of a hearing. We understand that time goes by and people forget specifics. But, while you're working, you should understand your solution deeply enough to be able to explain it or recreate it without the serious aid of your collaborators. The goal is for you to turn in work which represents your understanding of the material, and to avoid unintentionally taking advantage of anyone else's work.

Please keep in mind that these are the general guidelines, but that any professor can make their course policy more or less strict, so always defer to your professor. When in doubt, just ask them. Processing a BoC case is far more work for a professor or a TA than answering your email would be, so they should be receptive to questions about their policy.

If you have any questions about the BoC or the guidelines above, please don't hesitate to contact me directly at [kevans@caltech.edu](mailto:kevans@caltech.edu), or myself and the two secretaries, Gillian Kopp and Kevin Shu, at [boc@caltech.edu](mailto:boc@caltech.edu).

The coach would give sample problems to students and monitor their work, give assistance when students struggle, teach concepts where students have gaps, and model how to collaboratively solve problems. The class would likely consist of more than just 10 students, and as the date approaches, the coach would select the members of the two teams and the two alternates for the competition.

We are currently hoping to have meetings 1 day per week after school from 2:30 - 3:30.

Please contact Nadirah Nayo ([nayo.laureen@pusd.us](mailto:nayo.laureen@pusd.us)) if you are interested in volunteering.



# Modular Space Telescope Could Be Assembled By Robot

ROBERT PERKINS  
Caltech Media Relations

*This article is adapted from a story that was originally published online at caltech.edu.*

Seeing deep into space requires large telescopes. The larger the telescope, the more light it collects, and the sharper the image it provides.

For example, NASA's Kepler space observatory, with a mirror diameter of under one meter, is searching for exoplanets orbiting stars up to 3,000 light-years away. By contrast, the Hubble Space Telescope, with a 2.4-meter mirror, has studied stars more than 10 billion light-years away.

Now Caltech's Sergio Pellegrino and colleagues are proposing a space observatory that would have a primary mirror with a diameter of 100 meters—40 times larger than Hubble's. Space telescopes, which provide some of the clearest images of the universe, are typically limited in size due to the difficulty and expense of sending large items into space. Pellegrino's team would circumvent that issue by shipping the mirror up as separate components that would be assembled, in space, by robots.

Their design calls for the use of more than 300 deployable truss modules that could be unfolded to form a scaffolding upon which a commensurate number of small mirror plates could be placed to create a large segmented mirror. The assembly of the scaffolding and the attachment of the many mirrors is a task well-suited to robots, Pellegrino and his colleagues say.

In their concept, a spider-like, six-armed "hexbot" would assemble the trusswork and then crawl across the structure to build the mirror atop it. It was modeled on the JPL RoboSimian system, which in 2015 completed the DARPA Robotics Challenge, a federal competition aimed at spurring the development of robots that could perform complicated tasks that would be dangerous for humans. The hexbot would run on electrical power from the telescope's solar grid. It would use four of its arms to walk—with one leg moving at any given time, while the three others remain securely attached to

the structure. The two remaining arms would be free to assemble the trusses and mirrors.

The team opted to pursue an ambitious 100-meter design. "We wanted to study how different kinds of architectures perform as the diameter is increased," says Pellegrino, Joyce and Kent Kresa Professor of Aeronautics and Professor of Civil Engineering in Caltech's Division of Engineering and Applied Science, and Jet Propulsion Laboratory Senior Research Scientist. "We found that far away from the Earth, a structurally connected telescope is much heavier than an architecture based on separate spacecraft for the primary mirror, the optics, and the instrumentation."

The realization of such an assembly is still decades away. However, Pellegrino and his colleagues are already working on the various technologies that will be needed to make it possible.

The entire space observatory would be composed of the fully assembled mirror-and-truss structure and three other parts, flying in formation. An optics and instrumentation unit would be located about 400 meters from the mirror; a control unit, stationed about 400 meters beyond that, would align the system and keep it working properly; and a thin shade, roughly 20 meters in diameter, would shield the mirror from the sun to keep its temperature stable and consistent across its diameter.

The four-part assembly would be stationed at one of the sun-earth Lagrange points—locations between the sun and the earth where the pull of gravity from two bodies locks a satellite into orbit with them, allowing it to maintain a stable position. There, the space observatory could peer deep into space without drifting out of place.

Pellegrino collaborated with Joel Burdick, Nicolas Lee, and Kristina Hogstrom of Caltech, as well as Paul Backes, Christine Fuller, Brett Kennedy, Junggon Kim, Rudranarayan Mukherjee, Carl Seubert, and Yen-Hung Wu of JPL. A paper about the work, titled "Architecture for in-space robotic assembly of a modular space telescope," was published by the *Journal of Astronomical Telescopes, Instruments, and Systems*. This research was supported by NASA and the W. M. Keck Institute for Space Studies.

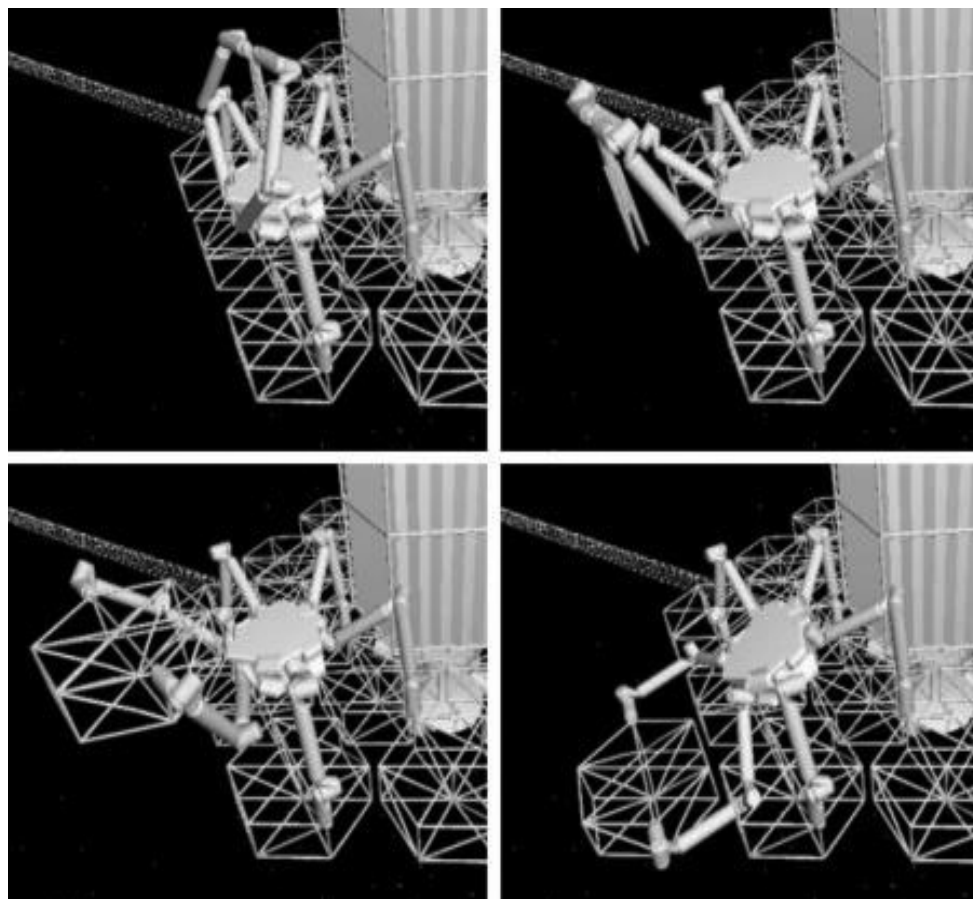


Illustration shows how a robot could assemble the trusses that would support a massive telescope mirror.

Photos Courtesy of Sergio Pellegrino/Caltech

# Caltech Welcomes Incoming Class of Students

ROBERT PERKINS  
Caltech Media Relations

*This article is adapted from a story that was originally published online at caltech.edu.*

With the start of the new school year, Caltech welcomes the class of 2020 to campus—236 students bringing a variety of backgrounds and unique viewpoints to Caltech's academic community.

"For science to move forward, we need to have a variety of perspectives at the table," says Jarrid Whitney, executive director of admissions and financial aid. "We look for a diverse group of students with unique talents and passions who are able to demonstrate a love for STEM fields and would thrive in an academically challenging environment," Whitney says. "That makes our campus richer."

The new students will arrive from 37 states, one US territory, and 13 other countries. Seventeen percent are members of an underrepresented minority group; 44 percent are women. In addition, 8 percent of the incoming class are first-generation college students; 13 percent are Pell Grant eligible; and 66 percent attended public or charter schools during high school.

The incoming students include patent-holders, published writers, adventurers, boardgamers, a ballroom dancer, a boxer, and even a self-described cat photographer.

Many of the students have already had a taste of life at Caltech during this year's Prefrosh Weekend. At the annual event, more than 450 prospective students and their parents spend three days on campus, eating and sleeping in the student houses, attending classes, and getting to know faculty and current students. "It's our biggest opportunity to showcase what Caltech is all about," Whitney says. This year, 65 percent of students who attended Prefrosh Weekend enrolled at Caltech.

The majority of incoming students are considering a major in one of the Engineering and Applied Science options, with computer science being the most popular specialty. But regardless of what they choose to major in, all of the freshmen can expect a rigorous core education in physics, chemistry, mathematics, biology, humanities, and social science that is intended to equip already curious and bright students with the skills to tackle interdisciplinary problems.

The incoming undergraduates can also expect to be outnumbered by the faculty, grad students, and postdoctoral researchers on campus—where they have the opportunity to be scientists and engineers as well as students.

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"Caltech students are incredibly ambitious and driven," says Joseph Shepherd, C. L. "Kelly" Johnson Professor of Aeronautics and Mechanical Engineering and vice president for student affairs. "They pick up the [course] catalog and say, 'How quickly can I take this advanced-level course?'"

"We attract the very best of the top science and engineering students in the nation," he adds. "Caltech's greatest resource is the fantastic people that we have, and that starts with the students. Students bring a new way of looking at things and enthusiasm that invigorates the campus."

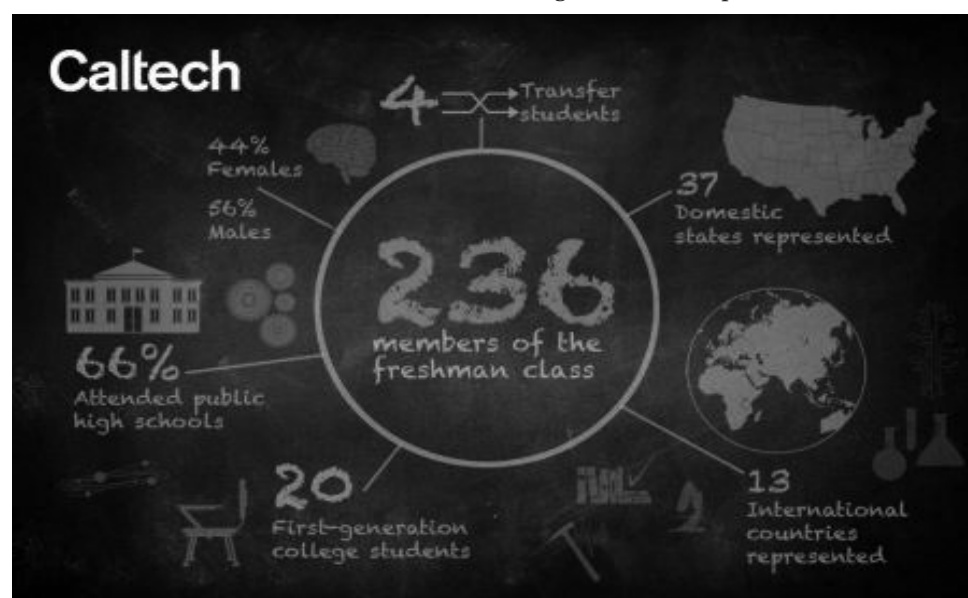


Photo Courtesy of Caltech

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## Men's soccer posts second half shutout in defeat

**GOCALTECH.COM**  
Actual Sports Content Editor

Pasadena, Calif. (Sept. 28, 2016) – Senior J.D. Feist recorded a season-high .800 save percentage and the Caltech men's soccer team posted a second half shutout in a 2-0 SCIAC defeat to Whittier College on Wednesday afternoon.

Whittier held the early edge, ripping the first shot of the game just 30 seconds into play and hitting the crossbar in the eighth minute. The Poets forced a pair of saves from Feist over the first 30 minutes before getting on the board with a ball over the defense and volley shot from six yards past

Feist. The visitors doubled the lead in the 40th minute while Caltech mustered a lone shot, which came in the 32nd minute but went wide.

The Beavers stepped up their game in the second half to keep Whittier off the board, thanks in part to five saves from Feist. Caltech was able to generate four shots and won four corner kicks as the hosts played stout defense and successfully moved the ball through the midfield into the final third, but the end product was lacking as the score line would remain the same at the final whistle. Senior Kevin Gao and sophomore Amine Boubezari each put efforts on target, but both were saved.



*This photo is the literal embodiment of kicking a man when he's down.*

Photo Courtesy of Michael Wong

## Volleyball tallies most points in four years vs. Whittier

**GOCALTECH.COM**  
Actual Sports Content Editor

Pasadena, Calif. – Sophomore Sakthi Vetrivel recorded a season-high 11 kills as the Caltech volleyball team scored the most points in a SCIAC match in four years in a 3-0 loss against Whittier College on Friday evening.

Caltech scored more points (54) across the three sets than in any SCIAC match since Sept. 29, 2012, when the Beavers put up 56, which

coincidentally also came against the Poets.

Rookie Ellie Walker also set for a career-high 7.0 assists per set with 21 total while classmate Lauren Li recorded 14 digs and also served two aces. Freshman Alexa Lauinger added 12 digs for her fifth match in double figures and junior Rachel Ng served the other three of Caltech's seven aces, also combining with senior Suzannah Osekowsky to register four kills on just 10 attacks.

The Beavers started slowly in the first set, falling behind the Poets before pulling back within two. Whittier regained its early advantage and maintained the lead for the whole set, winning 25-16.

Despite an advantage in hitting percentages in the second set, .133 to .091, Caltech was unable to hold an early 7-4 lead. Whittier rallied off eight straight points to take a 12-7 lead which the Poets would not give up, eventually taking the set, 25-19.



*What an aesthetic photo...of the Whittier girls.*

-<http://gocaltech.com>

## Tennis - ITA Regional Championships preview

**GOCALTECH.COM**  
Actual Sports Content Editor

### Women's Tennis

CLAREMONT, Calif. (Sept. 29, 2016) – Caltech women's tennis will send a record-tying five Beavers to the ITA West Regional Championship hosted by Pomona-Pitzer Colleges this weekend.

The only senior on the team, Sophia Chen leads a group that also includes two sophomores and both freshman recruits. Chen appears to have received a favorable draw in what will be her final ITA appearance with former two-star University of Redlands sophomore Madison Ross, who played a single match as a rookie. Should Chen prevail, she will likely face Madison Shea, a three-star recruit for Claremont-Mudd-Scripps Colleges and one of eight #9 seeds in the field.

Sophomores Kana Moriyama and Julia Reisler are also set to compete after their successful rookie seasons in 2016, including Reisler's deep run to the semifinals in the first consolation bracket of last year's Fall ITA. Moriyama has drawn Pomona-Pitzer College #9 seed Arianna Chen, a former three-star recruit who posted an 8-3 record in singles between courts #5 and #6 as a rookie in 2016 but defeated Reisler at #2 (6-3, 6-3). Reisler, meanwhile, is

the clear favorite in a first-round match against Colorado College's Annie Zlevor, who has never beaten a player of Reisler's caliber based on Universal Tennis Rating. Reisler will be eyeing a second-round faceoff with #9 Nicole Tan of CMS, an international recruit from Singapore with a superior UTR.

Freshmen Alexandra Bodrova and Angelica Zhou will be making their first appearance in a Caltech uniform and both would appear to have reasonable chances to start their career with a win. Bodrova, who has not played competitively in over a year, is matched up against Pomona-Pitzer's Olivia Mendoza, who was ranked outside the Top 500 recruits this past year but did beat three players with a 7 UTR across 2014 and 2015. Zhou squares off with Julia Hausmann, a junior at Redlands who has not appeared in a match in her first two years. A pair of #9 seeds await both Caltech rookies should they advance to the second round.

Bodrova and Zhou will partner for doubles as well, with a first round matchup against the #8-seeded Redlands duo of Shawnea Pagat and Sarah Ikioka, the No. 164- and No. 193-ranked recruits in the country. Moriyama and

Reisler will also team up to take on Chapman University's Nicole Fouts (2-17 at #2 doubles) and Raven Hampton (1-star recruit) before potentially challenging CMS's Tan and Lindsay Brown, who advanced to the quarterfinals in doubles and Round of 16 in singles of last year's tournament.



*This is the photo you get when it's not your season, and you do cool things. Wait your turn, tennis. Spring is coming.*

-<http://gocaltech.com>

### Men's Tennis

CLAREMONT, Calif. (Sept. 29, 2016) – Caltech men's tennis will send a record six Beavers to the ITA West Regional Championship hosted by Pomona-Pitzer Colleges this weekend.

Only three returning Beavers entered the field this year, with a trio of rookies joining them. Senior Morgan Lebbly, sophomore Zixiao Li and freshman Karthik Nair were each stuck with tough draws,

having to face #2 seed Jake Yasgoor of Pomona-Pitzer and #9 seeds Julian Gordy (CMS) and Bryant Johnson (UR), respectively. Gordy was the No. 87 recruit in the nation two years ago, while Johnson posted a 9-7 record across courts #2-5 as a rookie. Nair's match with Johnson has been tabbed as one of four "Best 1st Round Matchups" in a preview at [Division3tennis.com](http://Division3tennis.com).

Sophomore Derik Nguyen and freshman Connor Soohoo have been matched up with Whittier College twins Thomas and Maxwell Koszowski, who boast approximate UTRs of 10 and 9, respectively, but combined have beaten just three players with UTRs over 10 in the last year, while both Nguyen nor Soohoo have lost just once each to players with UTRs below 11 in the past two years. Each has a daunting task likely awaiting them should they advance to the second round, however, with Nguyen in the same pod as #7 Joey Dulle of Redlands and Soohoo in a pod with #9 seed Sam Malech, who went 6-1 at his primary #4 singles position last year.

The final singles competitor for the Beavers is rookie Tine Valencic, an unrated recruit and twin brother of No. 96 recruit Miha Valencic, who will not compete in this tournament. Tine faces UC Santa Cruz's Derek Levchenko, a hard-hitting senior who memorably rallied from being down match point against Li at The Ojai Tournament last spring to win a thriller in three sets (5-7, 7-5, 7-5) and lost just one match to a player with a UTR below 12 last year. Should Tine pull the upset, top Whittier player #9 Andrew You will likely be his opponent in the second round.

All six Beavers will also compete in doubles, and against familiar foes. Li and Nguyen are scheduled to face Johnson and Avery Davis, a four-star freshman, with #4 seed Pomona-Pitzer's Yasgoor and Kalyan Chadavalavada looming in the next round. Nair and Valencic have perhaps the most favorable matchup, against the Koszowski twins, but would have to contend with the #3 seed Sagehens, Antony Bello and Spencer Simonides, the following round. Finally, Lebbly and Soohoo take on Levchenko and AJ Flora, neither of whom made the Banana Slugs' doubles lineup at the NCAA Championship, although each rotated in and out of various positions during the regular season.



# ASCIT Minutes

Meetings are every week in SAC 13

## ASCIT Board of Directors Meeting

Minutes for 28 September 2016. Taken by Alice Zhai.

**Officers Present:** Tim Liu, Bobby Sanchez, Sakthi Vetrivel, Kalyn Chang, Robin Brown, Alice Zhai

**Guests:** Andrew Montequin, Adrian Huang, Michael Rupprecht, Chris Dosen

**Call to Order:** 12:00 pm

## Officer's Reports:

### V.P. of Academic Affairs (ARC Chair: Tim):

- Looking for option chairs for the student faculty conference next week
- ARC meetings are open to the public and held in SAC 15 at 3PM on Sundays
- ARC has a new website - go to [donut.caltech.edu](http://donut.caltech.edu) and click on the ARC link on the left

### V.P. of Non-Academic Affairs (IHC Chair: Bobby):

- Free dinners Wednesday (September 28) and Thursday (September 29)
- Prefrosh turn in house rankings to their RAs between noon to 2PM
- Rotation rules end at Friday 4PM

### Director of Operations (Sakthi):

- Social closet has been tampered with - got new lock
- Redid all the inventory
- Publications are getting new workspaces
- Need to set up meeting for club funding
- Club Fair is Wednesday, October 5th

### Treasurer (Kalyn):

- Finalizing budget for 2016-17 fiscal year, which starts on October 1
- Need to send out multi-house funding

### Social Director (Robin):

- End of Rotation Party on Friday, September 30 - wristbands will be required at the party
- Weekly bagels and donuts are set up with CDS

### Secretary (Alice):

- Future meetings will be Wednesdays at noon at SAC 15

Election for ASCIT president is on October 10<sup>th</sup>. Signups are up from September 28 to 5PM on September 30.

If anyone has any questions or concerns about a section of the minutes please email the appropriate officer. We are happy to answer any questions.

**Meeting Adjourned:** 12:22pm



**50**  
YEARS  
1966 - 2016

## FREE FLIGHTS & FREE FOOD

Join us at our **Fabulous Fall Flying Fair**  
Sunday, October 9, 2016, 11am – 5pm in El Monte  
Shuttle available for students  
Sign up at [fair.aacit.org](http://fair.aacit.org)

## PILOT GROUND SCHOOL

Take the first step to being a pilot  
Starts Thursday, September 29, 7pm on Campus  
contact David Wertz – [dgwertz@yahoo.com](mailto:dgwertz@yahoo.com)

## LEARN TO FLY WITH US!

Teaching Techers to Fly Since 1966



Visit [aacit.org](http://aacit.org) for more information.

The Aero Association of Caltech (aka AACIT, Caltech/JPL Flying Club) was incorporated in 1966 as non-profit mutual benefit organization. It is a separate entity from the California Institute of Technology (Caltech), though its members are primarily from Caltech & JPL. Caltech has no operational control or oversight of AACIT and assumes no responsibility or liability for the activities of AACIT. Flying is an activity with inherent risks and all who participate are accepting these risks.

# Join the Meditation Mob!

Tuesdays, 12:00 - 12:50



Want to learn more about mindfulness meditation? It's a great way to improve your attention and to become more grounded in the present moment.

There's no religious component. We use secular, evidence-based meditation techniques.

We meet in the small room just off the lounge in Winnett. All students are welcome, from total beginners to more experienced meditators.

Mailing list and MP3 archive:  
[counseling.caltech.edu/students/meditation](http://counseling.caltech.edu/students/meditation)

# CANDIDATES

**ANDREW MONTEQUIN**  
ASCIT President Candidate

With political activity approaching its four year maximum, it's easy to try to match every candidate to a common trope. In running for ASCIT President, perhaps the most difficult part of the process was figuring out which of these stereotypes I should portray myself as. Should I try to appeal to the freaks, the weirdos, the hippies, the disgruntled, the only moderately grunted, the anti-establishment crowd, or some other portion of Caltech's voting bloc? In the end, I came to the conclusion that I can be pigeonholed into one category and one category only: that of the political insiders. As the president of Ricketts and member of the IHC for a full year, I developed working relationships with every administrator of relevance to student affairs, served on the design committee for the new Bechtel residence and was involved in discussions about virtually every aspect of student life.

Despite the time I have spent becoming acquainted with the ins and outs of student government at Caltech, I am admittedly inexperienced when it comes to ASCIT. Throughout my year on the IHC, the majority of the interactions between the two main branches of student government were limited to the IHC Chair who serves on the ASCIT Board of Directors. With the recent arrival of the Class of

2020, you may have found yourself asking or being asked about the differences between ASCIT and the IHC and perhaps struggling to find the answer. In fact, with the exception of running Rotation (the Herculean task taken on by the IHC every year) the differences seem to be marginal. Both groups share the goal of representing and

advocating for the undergraduate population. Unfortunately this fact is often forgotten, jeopardizing the efficacy of student government. With my past experience on the IHC and potentially future experience on ASCIT, I hope to bridge the gap between these two previously disjunct arms of the Caltech political machine.

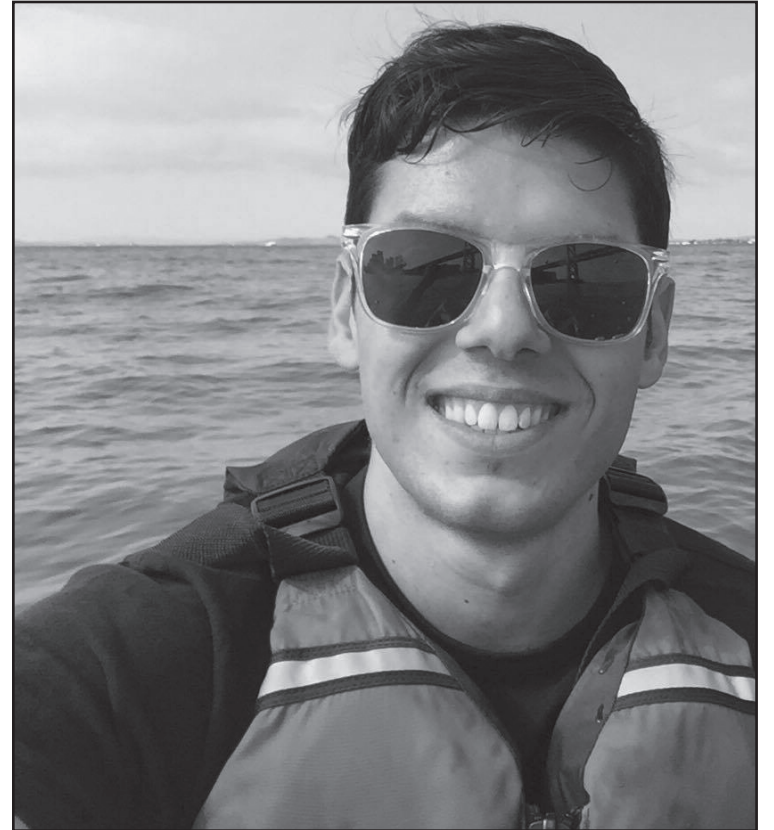
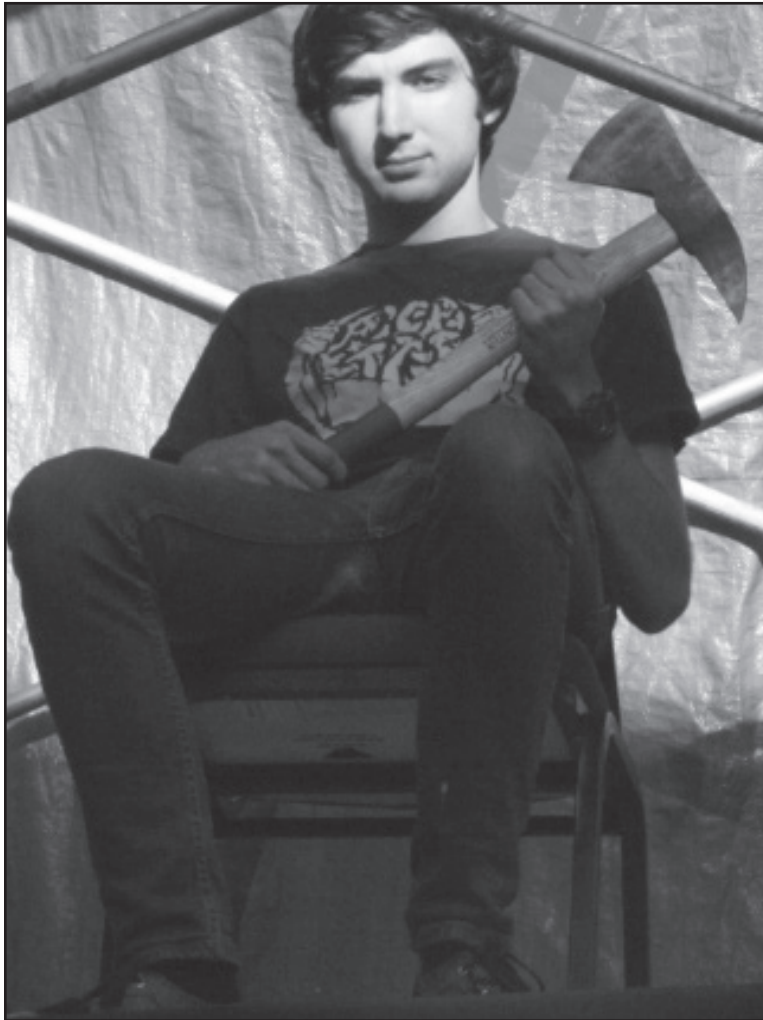
Greater communication between the IHC and ASCIT will not only result in the houses having more even representation in student government decisions, but a more unified front will only be beneficial in dealings with administration.

**JORDAN BONILLA**  
ASCIT President Candidate

If elected ASCIT president, I will do everything I can to disband the following organizations (in this order):

- 1) IHC
- 2) ARC
- 3) ASCIT

Thanks,  
Jordan



## Crossword

**Across**

- 1. Talon
- 5. A chance to do something
- 9. Egg-shaped
- 14. Fog
- 15. A long walk
- 16. Jewelled headdress
- 17. Ellipse
- 18. Fiend
- 19. Emblem of a clan or tribe
- 20. A small stream
- 21. Personal property
- 23. Employ
- 24. Supplement with great effort, \_\_\_ out
- 25. Typo
- 29. Cloak used to cover head and shoulders
- 31. Uncommon
- 33. Simian
- 34. Type of picture puzzle
- 36. A regular customer
- 39. Rain, snow, hail or sleet
- 42. Rough shelter
- 43. Person who makes a gift of property
- 44. Distant but within sight
- 45. Layer
- 47. Requirements
- 51. Native or of a certain region
- 54. Draw

- 56. On the sheltered side
- 57. Meat from a deer
- 59. Raise
- 60. Enthusiastic approval
- 63. Part of the jaw
- 64. Way out
- 65. Usher
- 66. Misplace
- 67. Set of related records
- 68. Command
- 69. Pitcher
- 70. Large woody plant

**Down**

- 1. Refrain
- 2. Very generous
- 3. Ornamental shrub
- 4. Fountainhead
- 5. Surprise greatly
- 6. Above
- 7. Gumbo
- 8. Move unsteadily
- 9. Freshwater mammal
- 10. Stringed instrument
- 11. Cereal grass
- 12. Anger
- 13. Water barrier
- 22. Surgical instrument
- 24. Choose by a vote
- 26. Edible tuberous root
- 27. Au fait with
- 28. Males
- 30. Small bird

- 32. Stage whisper
- 35. Vitamin of the B complex
- 37. Expiate
- 38. Become fatigued
- 39. Drudge
- 40. South African monetary unit
- 41. Usually herbivorous land turtle
- 42. Caustic solution
- 46. Frozen spear of water
- 48. Panacea
- 49. Sully
- 50. Small sofa
- 52. Dodge
- 53. Measuring instrument
- 55. Located inward
- 58. Display
- 59. Remaining
- 60. Self
- 61. Mongrel
- 62. Movable cover

