

July 3, 2018

PROFESSOR DEAN TULLSEN, Chair
Department of Computer Science and Engineering

PROFESSOR CHRISTINE ALVARADO
Department of Computer Science and Engineering

SUBJECT: Undergraduate Program Review for the Department of Computer Science and Engineering

Dear Professors Tullsen and Alvarado,

The Undergraduate Council discussed the Department of Computer Science and Engineering's 2018 Undergraduate Program Review. The Council supports the findings and recommendations of the review subcommittee and appreciates the thoughtful and proactive response from the Department.

The Council would like to highlight the need for faculty advising. We feel that students would benefit from the experience of meeting with, and receiving career and industry guidance from, faculty. If one-on-one advising is not possible due to the large student population, the Department could identify areas of specialization for faculty, and students could meet with the faculty in a group setting.

The Council will conduct its follow-up review of the Department in Spring 2019. At that time, our goal is to learn about the Department's progress in implementing the recommendations of the program review subcommittee and the Undergraduate Council. We are particularly interested in learning about the results of the changes to prerequisites, and the success of the lottery system in the capped major application process. The Council extends its thanks to the Department for their engagement in this process and we look forward to the continued discussion.

Sincerely,

Sam Rickless, Chair
Undergraduate Council

Attachment

(1) Undergraduate Program Review Report and Responses for Computer Science and Engineering

cc: F. Ackerman
J. Eggers
R. Horwitz
J. Moore
A. Pisano
R. Rodriguez
M. Sidney

From: Albert P. Pisano
To: [Sidney, Marie](#)
Cc: [Ann Kim](#); [Dean Tullsen](#)
Subject: Re: UC San Diego UGC Undergraduate Program Review
Tuesday, May 1, 2018 9:38:23 AM
Date:

Ms. Sidney,

Many kind thanks for your patience.

I reiterate the thanks to the review committee, and give my thanks to the CSE department for its circumspect and thoughtful participation in the review. Here, I would like to add my own comments to the responses of CSE to the Departmental Review.

With regard to diversity, indeed, this has been on the Dean's Office radar since my arrival and the Department has become receptive to Excellence in Diversity Searches, which is our primary means to shift the culture and engage/hire faculty for whom diversity is an important issue. We are continuing our on-going efforts and anticipate Excellence in Diversity Searches for the coming hiring cycle. Dean's Office will continue to work with CSE to keep this issue at the forefront.

With regard to workload, indeed, this is a recognized issue, and the Dean's Office has made strong efforts to make CSE more successful at hiring both LSOEs and LRF in particular. The resources (slots) are provided, and the Department is making great efforts, but frequently they are simply not able to fill all the slots available due to competitive pressures. Dean's Office will continue the "CSE Hiring Success Plan" which is an allowance for a certain number of "over-offers" to maximize the odds of filling all slots, both LSOE and LRF.

With regard to space, indeed, the Dean's Office acknowledges the CSE philosophy of residing in one building, but points out that all other Departments have facilities and/or offices in more than one building. And so, the Dean's Office would offer that CSE may want to reconsider its space policy if space issues become sufficiently pressing.

Thanks again to all who worked so hard to make this a thoughtful, insightful review.

Regards,

-- APP

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Computer Science and Engineering Department Response to the Undergraduate Program Review Report

Spring 2018

The CSE department thanks the visiting committee for their time and effort in helping us to improve our program. We believe that they got an accurate view of the state of our program during their visit and have identified some important ways in which our program can be improved. In this report, we respond to their assessments of our strengths and weaknesses and their recommended actions with both our perspective on these points and the follow-up actions we plan to take.

First, we appreciate that they have identified what we perceive to be our own strengths. We are extremely proud of our staff, in particular our student affairs staff, and this unit is thriving under the leadership of Patrick Mallon and Veronica Abreu. Our student advisors are innovative and dedicated, and even before the review they had already begun work on a new advising structure to better support the large number of students in CSE and in related majors.

We are pleased that the committee recognized the hard work required by the faculty and staff to successfully handle the skyrocketing enrollments we faced over the last review period. Not only were faculty and staff asked to do more to “weather the storm,” but the department worked together to come up with solutions for managing high enrollments while preserving a high-quality undergraduate education in CSE for as many students as possible. These solutions included actions such as keeping lower-division courses open to any student who wants to take them (regardless of major), and recognizing the extra efforts required by faculty to teach larger courses. We are also pleased to hear that our attempts to make large courses better serve our heterogeneous student body have been well-received, as have our recent curriculum revisions.

Finally, our tutor program is one of our prized programs, and it is good to hear it is appreciated. Our lab usage is smooth--instructors collaborate informally to share resources, and students rarely report any issues. Students usually find the support they need, when they need it, from our undergraduate tutoring staff.

In terms of our response to the weaknesses and suggestions listed in the report, we have separated them into those under department control and those directed at a higher level on campus.

Within Department

Diversity (of Faculty and Students in particular) remains an issue

The report states (accurately): “The department continues to have difficulty hiring a diverse faculty and admitting and retaining a diverse student body.” We acknowledge this problem and thank the committee for highlighting this important issue. We will not make excuses--the bottom line is that we must do better.

To address this issue we have already established an active diversity committee. This committee comprises about 40 faculty, staff and grad students, and is actively working on several projects relating to department culture, recruiting, and image. Concrete plans include analysis of survey data, student focus groups, website modifications, and active recruiting at conferences like the Grace Hopper Celebration of Women in Computing and the Tapia Celebration of Diversity in Computing.

Still, we recognize what is needed will be a deep cultural change. The report also (correctly) notes: “The major diversity efforts tend to fall to the same small set of faculty, who are often themselves from those diversity target populations, putting undue stress on them.” We are considering efforts such as implicit bias training on a wider scale (i.e., not just for the faculty recruiting committee). We will also continue to work to improve our process of recruiting both faculty and students, actively reaching out to members of underrepresented groups to encourage them to apply and to accept our offers.

CE BS revisions needed, consider discontinuing CS BA

Two of our degree programs were identified as needing attention. First, the report questions whether the BA is still a useful degree, and we have the same concern. The BA was originally developed as a broader version of the BS, for students who wanted slightly less technical depth in the context of a broader education. However, in its current form, the BA is actually *more* technically constrained than the BS. In the meantime, the DSC major has emerged as a possibility for students who want to study computing within a broader context. We will consider whether the BA still holds value. If it is deemed to still hold value, we will undertake a substantial revision of this major.

Second, the CE BS has not received the same attention that the CS BS has received in recent years. This issue is partly because it is more difficult to change a major that is shared between two departments. However, we recognize that this updating is necessary, and we will convene a team to work with ECE to update this program.

Undergraduate teaching issues

The visiting committee identified a few issues with our teaching at the undergraduate level. First, they reflected a concern that a large portion of our program is taught by non-senate faculty and temporary lecturers. On this point we would like to express a counterpoint. We strongly support our outstanding non-senate faculty lecturers and they are an integral part of our teaching mission. In fact, we are taking steps to include them better into the faculty of the department. For example, some of our faculty meetings are now open to all faculty, including both continuing and pre-continuing lecturers. These steps will help address the feeling that non-senate faculty are somehow separate from the rest of the faculty when it comes to the teaching mission of the department.

We have also developed new hiring and review procedures for our non-senate lecturers that will ensure the high quality of this group of instructors. Each pre-continuing lecturer meets with the Lecturer Recruiting Committee on an annual basis to review how the previous year went before they are issued a contract for the next year. Lightweight feedback on any issues with teaching quality or course needs (as well as teaching strengths) are discussed with the candidate during these annual meetings. Then at the 9-unit (~3 year) mark, they undergo a more rigorous review during the re-hiring process where they can be evaluated more completely with respect to teaching excellence and department needs. Finally, at the 15-16 unit (~5 year mark) they undergo their excellence review. Because of the newly established regular review and feedback cycle, there should not be any surprises at that point.

More broadly, the visiting committee also raised the question of how we ensure teaching quality in our undergraduate program across both long-term and temporary faculty, citing in particular a few courses that have not been well received. We are currently working on procedures to better holistically evaluate teaching and provide feedback, guidance, and support for faculty to improve their teaching quality.

Finally, we continue to try to hire assistant teaching professors. These searches have not been successful in the past two years, in part because the demand for high quality teachers is so high nationally. But we will make improvements to our recruiting process and keep trying.

The undergraduate tutor program

Although our tutor program was cited as a strength (and we agree), the visiting committee raised some important issues. The report cited the lack of process in tutor hiring and implied that some tutors might also be acting as TAs. We will address these concerns via faculty training in two ways. First we will look at how individual faculty members are communicating to prospective tutors about the hiring process and ensure that a consistent message is being communicated. Then we will develop faculty training on what is acceptable and what is not (e.g., never make a verbal offer). Second, we will: clarify which duties tutors may perform; ensure that faculty understand what duties are acceptable for an undergraduate tutor to

perform; and make sure they understand the consequences of having tutors perform duties that are reserved for graduate TAs. We believe that most faculty who are asking tutors to perform TA-specific duties, if this is happening, are simply unaware of which activities are limited to TA-only activities.

The second issue raised was the appropriateness of CSE 95 to prepare students for their tutoring duties. We will examine the content of this course to make sure the course activities and student learning are aligned with tutoring job duties.

Curriculum issues

The committee identified a couple of issues with our general undergraduate program. The first was the need to determine how to incorporate web programming into the curriculum. Currently, web programming (and indeed any concepts related to the internet) shows up only in the upper division, and is not covered by any strictly required course. In today's environment, where most jobs will involve some amount of web programming, this is a problem, and we will consider how to better integrate this knowledge and these skills into our curriculum.

Second, the committee recommended that we consider not allowing a D to count for major credit. We will discuss implementing this recommendation.

Student advising

The report noted a couple weaknesses in our student advising structure including the limited role that the faculty play and the ability for students to “slip through the cracks” as is highlighted in this statement from the report: “It appears students can get to their senior year without ever meeting with a staff advisor or even having a plan on how they plan to graduate on time.” Of course, this statement considers only the major advisors (students may have requirements to meet with their college advisors) but nonetheless it is something we must consider.

The undergraduate advising staff team has started developing a more structured advising model including the development of student learning objectives (SLO's) and mapping those SLO's to specific advising learning opportunities. In this process, it was clear that a more structured advising model is needed in the department. Effective Fall 2018, students will have an assigned advisor. All incoming students will be expected to meet with an advisor for a First Year Mandatory Advising session. This session will be structured so that each student is receiving the same level of quality information from their advisor as any other student. Additionally, advisors will follow up with students to help ensure they have developed a long term plan and understand the course prerequisite sequence needed to be successful in completing their degree within units/time allowed. We are working on gaining the ability to place holds on the accounts of students who do not come in to meet with an advisor. The hold would be lifted once the student came in to meet with an advisor (or somehow connected with their advisor depending on the student's circumstances).

Prerequisites and placing out of courses

One theme of the weaknesses identified by the report related to the rigid prerequisite structure our department currently employs. For example, the report states:

- “Students feel that stars are not allowed to thrive and challenge courses they have already mastered... Consider making it easier for students to test-out or petition for exemption, especially in LD courses.”
- “The prerequisite structure is inflexible and, in some cases, inappropriate.”

While we feel that these comments might have been overly amplified by the non-random subset of students who came to meet with the visiting committee, we agree that our prerequisite structure can be somewhat rigid.

As a department, we made our current policy of rigidly enforcing prerequisites for three reasons:

- Instructors historically vary in their approach to prereq screening. Some instructors were rigorous in their screening, but most were not, believing the onus is on the student. This was creating a situation where many students were getting into courses they had no business being in. This led to over-use of course resources, unnecessary student struggle, and often slowing down the course as the instructor was forced to cover prerequisite knowledge.
- Most courses students are asking to get into have long waitlists, and we need to give priority to students who have met the prerequisites.
- Inconsistent historical enforcement of prereqs led to angry students becoming abusive toward student affairs staff when their request was denied.

In addition, we have been forced to add prerequisites to some key courses because we found that students without those prerequisites were simply unprepared for the level of the course. Allowing students to place out of courses or waiving prerequisites is a human-resource intensive task. To truly judge whether a student has the proper prerequisite knowledge or knowledge to place out of a course, that student must demonstrate this knowledge by completing the equivalent homework and exams from the course. But this requires time and effort to grade this work, which we do not have.

However, in response to this review, we will take the following steps:

- We will consider developing a credit-by-examination procedure for early lower-division courses. Such a procedure would allow advanced students to place out of early courses only when they are very well-prepared. We will need to find the appropriate resources to maintain this structure (e.g., for developing and grading the exams).
- We will consider automated or semi-automated models for allowing students to bypass prerequisites. For example, perhaps a student with an A average will be allowed to take a course as a co-requisite instead of a strict prerequisite. Or perhaps the instructor of a course could give an entrance exam for interested students in the prior quarter (again, we would need resources for this). However, because there is no enforcement

mechanism for co-requisites, we will need to ensure that the students don't skip the prerequisite courses entirely, and will have to come up with a mechanism for enforcing this.

- We will re-examine our prerequisite structure, particularly in the upper-division, to try to eliminate CSE 100 as a singular bottleneck, without sacrificing student preparation.

Continued high workload

The report stated: "Despite the perception of moving to steady state, there are still many concerns about high workload and over-enrollment." We have already introduced a new policy for giving slightly more teaching credit for large classes, and we believe once this policy has been fully felt, it will help mitigate some of these concerns. However, we will continue to monitor these concerns and take action if we do not continue to see an increased morale with respect to workload.

Outside Department

Resources for temporary lecturer hiring

The report states: "The CSE department should not be expected to provide temporary academic staffing funds to cover their large enrollments, particularly for courses with large non-major enrollments. It is our understanding there is a funding formula but it appears to be woefully inadequate." Because of the large number of courses CSE must cover, it is expected that CSE will have to rely on temporary and non-senate lecturers for some time, both while we take steps to grow the faculty and even when we reach steady state, for example to cover leaves. We understand the overall budget shortfall at the campus level, but we also appreciate the visiting committee's acknowledgement of the cost of hiring even temporary lecturers in CSE. Any additional support from the campus would be appreciated.

Space issues

We continue to struggle with space. However, the current suggestion to move some groups out of the building into the new engineering building is not compatible with the across-group collaboration within CSE. We continue to look for creative ways to use our space while keeping the core CSE community intact.

Access to Student Data

The issue of diversity, raised above, is also related to the issue of (lack of) access to student data and prospective student data. We have been working with Admissions to acquire the addresses of admitted undergraduates so that we can more actively do targeted recruiting to students from underrepresented groups. We feel that the calling campaigns are too general and do not let us sufficiently focus our recruiting efforts. But as of yet we have not been able to get access to this data. Additionally, we have been working with ETS and the Dean's office to

regularly get access to current student data including gender, race, major, course grades, etc., so that we can analyze the outcomes for students from different groups at different points in our program. This data, too, has been difficult to acquire, though we have been making some progress recently. We look forward to continuing to improve access to this critical data.

Undergraduate Program Review

Department of Computer Science and Engineering

The department should be commended for an excellent comprehensive self study. The picture we obtained from our day and a half of meetings was consistent with what was presented in the self study. Although enrollment growth appears to be under control, there is still a sense of being burdened by a very large workload from both majors and non-majors. The department has an excellent plan in place but the plan will need to be monitored carefully, particularly in regard to its impact on diversity. There is also some concern that senate faculty growth is not increasing at a rate commensurate with the number of majors and that a disproportionate proportion of the teaching is being carried out by non-senate lecturers.

A. Strengths and weaknesses of the current operation of the department

Strengths:

- The department has a great advising staff who really care about the students (including OSD students and students from diverse backgrounds).
- They mounted an excellent response to the skyrocketing demand for both CS majors and CS courses enrollments for non-majors. This has been a difficult time for CS departments across the nation, and the CSE department should be commended for their timely and thoughtful response to this challenge.
- There is a general feeling in the department of having achieved “steady state” on enrollment numbers.
- There appears to be generally good rapport between CSE and ECE. At least one faculty member commented that it didn’t really matter where a candidate was hired.
- Graduate TA training (CSE 599) is excellent and highly rated by those who have gone through it.
- The mixed labs (tutors/TAs from several classes in same space at same time) is making excellent use of lab space and also providing students excellent flexibility in getting help when they need it.
- There generally seems to be satisfaction with the number of tutors/TAs for classes, although much of that seems to be funded with department discretionary funds rather than centrally.
- Students feel that there is a good community and collaborative environment

Weaknesses:

- The department continues to have difficulty hiring a diverse faculty and admitting and retaining a diverse student body. Often faculty vote on a candidate they have never seen, and one or two negative comments can disproportionately sway an argument, conferring a sort of veto power by one or two faculty members. [See the attached slides provided by a CSE faculty member to see the extent of the problem.]

- FTEs and resources from the Division (except for TA funding) are being determined by the number of majors and not the actual number of students taught (which is much higher due to the large number of non-majors in the courses).
- A possibly disproportionate number of courses (and students) are being taught by Unit 18 faculty (non-senate teaching faculty) and faculty are concerned that this is not being transparently reported.
- There is also some concern that many courses taught by temporary staff.
- Some faculty still feel overworked with no energy/time for being innovative with regard to teaching and curriculum.
- The major diversity efforts tend to fall to the same small set of faculty, who are often themselves from those diversity target populations, putting undue stress on them.
- The department needs better access to admissions/enrollment data including analyst support to explore diversity, retention, graduation rates, etc.
- There is poor campus support for the department to communicate electronically and via US mail with admitted but not yet matriculated students as part of yield and advising efforts.
- It appears students can get to their senior year without ever meeting with a staff advisor or even having a plan on how they plan to graduate on time.
- More support is needed from the University for accommodating OSD students.
- Better faculty education is needed on issues of implicit bias, cultural differences, and appreciation of differences.
- The few discrepancies in the CE/BS between ECE and CSE are problematic. It seems plausible that one reason more CE students choose CSE is because of the D rule (D's are considered passing grades in CSE but not ECE). Consider dropping or appropriately amending the D rule in CSE.
- We were informed that the department's FTE allocation is primarily driven by majors and not by enrollments, leaving no real funding stream for large non-major lower division courses
- There is a shortage of faculty office space with no obvious sub-group to move to a new building.
- There is a perceived lack of campus support for exploring/moving-to new teaching modalities: hybrid, flipped, full-online.
- Despite the perception of moving to steady state, there are still many concerns about high workload and over-enrollment.
- There appear to be wide differences in teaching commitment and quality (which seems to be more than in other Departments - students complained especially about faculty using online lectures from another faculty member).
- More undergraduate tutor training is needed. CSE 99 is viewed as insufficient especially for the tutors who are leading sections (functioning as TAs). 599 is perceived as being much more effective.
- There appears to be no official role of faculty in advising. (Advising appears to be handled entirely by the advising staff.)

- There is wide variation in the hiring process for tutors. Care needs to be taken to avoid making verbal commitments by faculty that cannot be completed. What is the tutor hiring process?
- International students coming in via CCC do not need to take TOEFL and thus may end up at UCSD with deficiencies in English.

B. Strengths and weaknesses of the curriculum

Strengths:

- Students feel that the Department does a good job of helping the struggling students (with large numbers of tutors in entry-level classes).
- The curriculum was recently restructured into four areas that allow more flexibility in meeting major and minor requirements.
- Students approve of the decision to not allow concurrent enrollment in CSE 100 and CSE 110 in the same quarter.

Weaknesses:

- Students feel that stars are not allowed to thrive and challenge courses they have already mastered (e.g. a student with USA Computing Olympiad experience is still required to take some initial programming course.) Consider making it easier for students to test-out or petition for exemption, especially in LD courses. Weaker students also find it intimidating to have these over-prepared students in the courses. Maybe a possible solution here would be to provide a “final exam” only enrollment option.
- There is concern among students about a wide disparity in effort and quality of teaching
- There is a general disdain among students for CSE 103.
- Students feel courses in databases and web development are missing or inadequately represented in the curriculum.
- The prerequisite structure is inflexible and, in some cases, inappropriate.
- Apparently, graduate courses are being used to let students take courses without prerequisites because of the lack of prerequisite flexibility in the undergraduate program.
- The BA degree needs to be revisited - particularly given it now has more units than the BS degree.
- Some in the department feel that the curriculum reform did not go far enough.

C. Department in the context of campus and University policies

- There was some discussion among faculty that CSE does not really fit in Engineering and may be better served as its own school or division: (1) CSE is not receiving resources for lab courses though they need them for programming resources, (2) CSE is

more of a service department (with many non-majors served) than the other Engineering Departments.

- The department will begin an admission lottery system this spring, admitting 75 students from the continuing pool of students who have completed entrance criteria. Without any data yet, there are mixed views about this.
- There is a lack of reward/credit for outreach activities (both at department and campus level).

D. Recommendations

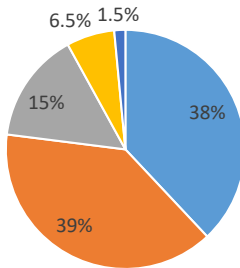
1. Find a mechanism to allow for TAs to be given course duties prior to the start of the quarter to help with course preparation.
2. Make every effort to make sure that qualified students are allowed to test out of courses. This is particularly important for lower division courses where such students can create an intimidating classroom environment for students that come into the class with the normal preparation, with a negative impact on retention.
3. Re-examine the prerequisite structure and eliminate any artificial prerequisites.
4. There should be university-wide space and staff to deal equitably and consistently with students with disabilities, specifically for testing accommodations.
5. Consider moving Warren college to one of the new buildings to free up more space for student labs and new faculty.
6. The CSE department should not be expected to provide temporary academic staffing funds to cover their large enrollments, particularly for courses with large non-major enrollments. It is our understanding there is a funding formula but it appears to be woefully inadequate.
7. With all the construction, consider including large lecture halls so that faculty teaching large classes do not have to give the same lecture to separate sections.
8. The Department and Division should provide leadership on better appreciating diversity and recognizing implicit biases in hiring, admissions, and retention.
9. The Department and Division should provide support for outreach efforts (possibly in the form of teaching relief, recognition during promotions, etc.).
10. The Department should consider standardization of tutoring hiring/vetting process
11. The Department should consider removing D as a passing grade for any of its majors and minors.

Other thoughts/questions:

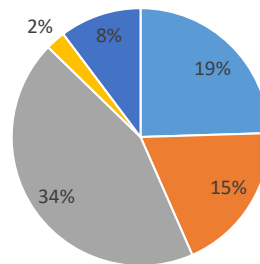
What percentage of students come from San Diego county and how might this influence outreach and the hope of it having an impact?

There is a perception that transfer students are not doing as well as native juniors. Is that the case? What does the data say? Can/should the transfer requirements be raised (or should there be a “bootcamp/transfer intro” course to align expectations)?

California population in 2016

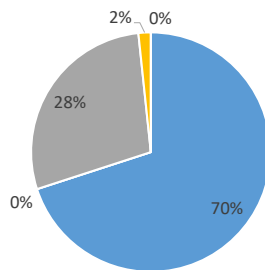


UCSD undergraduates in 2016 (residents)

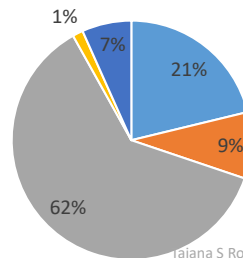


■ White ■ Latino ■ Asian Am. ■ African Am. ■ Other

CSE faculty 2017



CSE undergrads in 2015 (residents)



Tajana S Rosing, CSE; March 2018

Undergraduate Program Review

Department of Computer Science and Engineering

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- Students approve of the decision to not allow concurrent enrollment in CSE 100 and CSE 110 in the same quarter.

Weaknesses:

- Students feel that stars are not allowed to thrive and challenge courses they have already mastered (e.g. a student with USA Computing Olympiad experience is still required to take some initial programming course.) Consider making it easier for students to test-out or petition for exemption, especially in LD courses. Weaker students also find it intimidating to have these over-prepared students in the courses. Maybe a possible solution here would be to provide a “final exam” only enrollment option.
- There is concern among students about a wide disparity in effort and quality of teaching
- There is a general disdain among students for CSE 103.
- Students feel courses in databases and web development are missing or inadequately represented in the curriculum.
- The prerequisite structure is inflexible and, in some cases, inappropriate.
- Apparently, graduate courses are being used to let students take courses without prerequisites because of the lack of prerequisite flexibility in the undergraduate program.
- The BA degree needs to be revisited - particularly given it now has more units than the BS degree.
- Some in the department feel that the curriculum reform did not go far enough.

C. Department in the context of campus and University policies

- There was some discussion among faculty that CSE does not really fit in Engineering and may be better served as its own school or division: (1) CSE is not receiving resources for lab courses though they need them for programming resources, (2) CSE is

more of a service department (with many non-majors served) than the other Engineering Departments.

- The department will begin an admission lottery system this spring, admitting 75 students from the continuing pool of students who have completed entrance criteria. Without any data yet, there are mixed views about this.
- There is a lack of reward/credit for outreach activities (both at department and campus level).

D. Recommendations

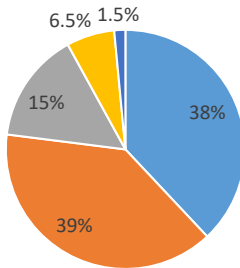
1. Find a mechanism to allow for TAs to be given course duties prior to the start of the quarter to help with course preparation.
2. Make every effort to make sure that qualified students are allowed to test out of courses. This is particularly important for lower division courses where such students can create an intimidating classroom environment for students that come into the class with the normal preparation, with a negative impact on retention.
3. Re-examine the prerequisite structure and eliminate any artificial prerequisites.
4. There should be university-wide space and staff to deal equitably and consistently with students with disabilities, specifically for testing accommodations.
5. Consider moving Warren college to one of the new buildings to free up more space for student labs and new faculty.
6. The CSE department should not be expected to provide temporary academic staffing funds to cover their large enrollments, particularly for courses with large non-major enrollments. It is our understanding there is a funding formula but it appears to be woefully inadequate.
7. With all the construction, consider including large lecture halls so that faculty teaching large classes do not have to give the same lecture to separate sections.
8. The Department and Division should provide leadership on better appreciating diversity and recognizing implicit biases in hiring, admissions, and retention.
9. The Department and Division should provide support for outreach efforts (possibly in the form of teaching relief, recognition during promotions, etc.).
10. The Department should consider standardization of tutoring hiring/vetting process
11. The Department should consider removing D as a passing grade for any of its majors and minors.

Other thoughts/questions:

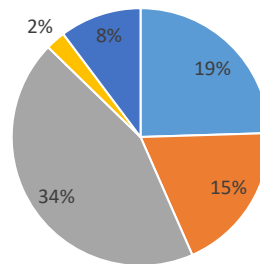
What percentage of students come from San Diego county and how might this influence outreach and the hope of it having an impact?

There is a perception that transfer students are not doing as well as native juniors. Is that the case? What does the data say? Can/should the transfer requirements be raised (or should there be a “bootcamp/transfer intro” course to align expectations)?

California population in 2016

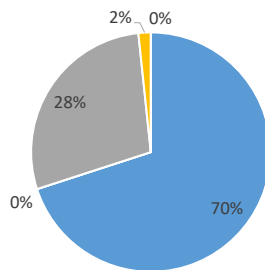


UCSD undergraduates in 2016 (residents)

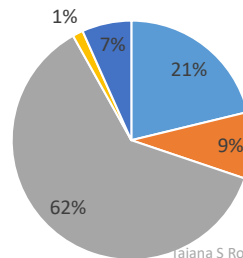


■ White ■ Latino ■ Asian Am. ■ African Am. ■ Other

CSE faculty 2017



CSE undergrads in 2015 (residents)



Tajana S Rosing, CSE; March 2018