

Winter 2016 Term Two Report on Engineering Co-op

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Introduction

In the fall of 2016, the Engineering Undergraduate Society (EUS) was made aware of a series of proposed changes to the Engineering Co-op Program (co-op), which provides engineering students with the opportunity to gain paid work experience during their university studies. Due to a lack of recent data on student opinions toward the topic of co-op and a desire to accurately reflect the views of constituents toward the Faculty of Applied Science, the EUS decided to move forward with a survey open to its membership. For more details on the background of the proposed changes to the Engineering Co-op Program, please refer to Appendix A.

This report contains a summary of the co-op portion of the aforementioned survey; the survey also contained questions on the topic of academic advising, the results of which have been separated from this report. When applicable, the report references the Alma Mater Society's Academic Experience Survey (AES) for historical reference to the most recent version of questions. The report seeks to make recommendations to the Faculty of Applied Science regarding the future of the Engineering Co-op Program. Questions about the report may be directed to EUS VP Academic Affairs Jakob Gattinger at vpacademic@ubcengineers.ca.

Methodology

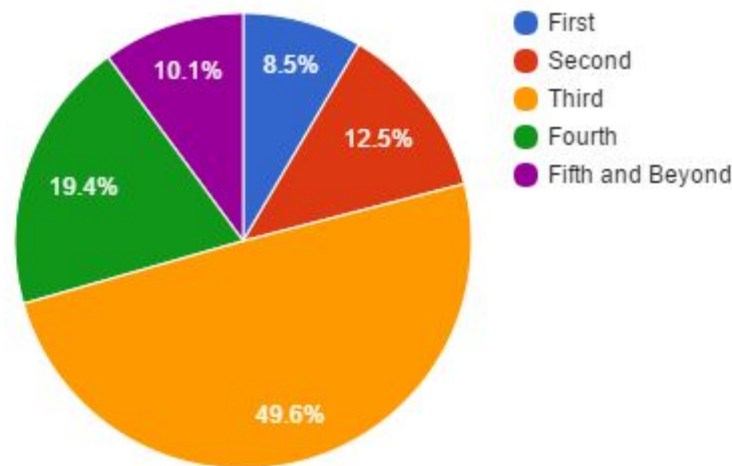
Participants were invited to participate through the EUS Newsletter (the e-nEUS), various EUS-affiliated Facebook groups as well as a message sent to all co-op students by Engineering Co-op staff. Participation was incentivized through a small offering of gift cards.

The survey itself was conducted via the UBC Survey tool, and consisted of four pages of questions. Questions were split between empirical and open-ended, to allow a diversity of feedback. The average time taken to complete the survey was ten minutes. Students in year one were excluded from the co-op portion of the survey. Upper year students who indicated they were not enrolled in the co-op program were not asked questions about the state of the current program; however, these students were given the opportunity to provide feedback on the proposed changes. Several other filters were applied to the survey as well; for instance, the sole completed response from the Engineering Physics program, which falls under the UBC Science Co-op Program, was omitted from results regarding the current Engineering Co-op Program.

Demographics of Sample

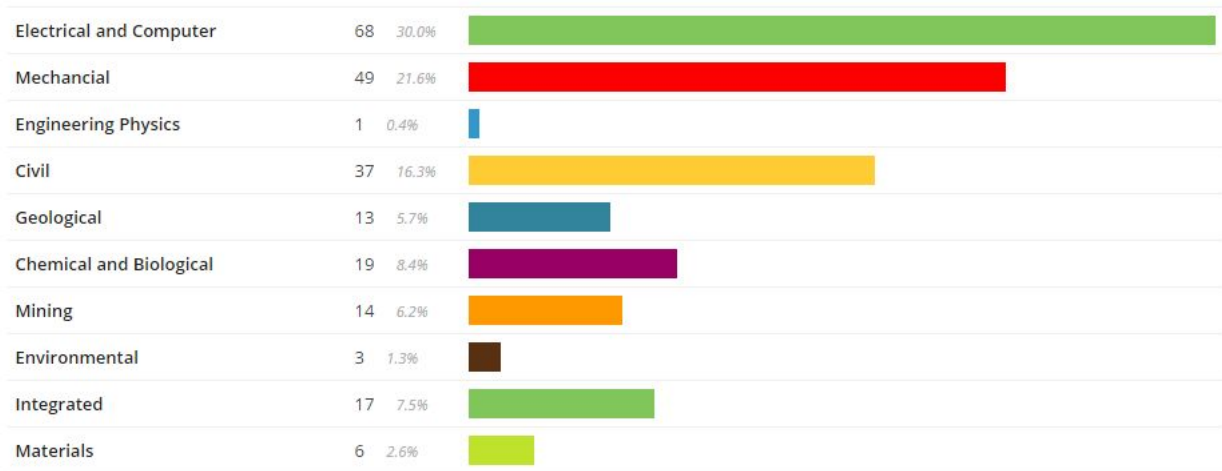
A total of 392 responses were received, of which 248 were complete. Of those 248 complete responses, 87.7% represented students enrolled in the Engineering Co-op Program. This sample represents approximately 9% of total enrolment in the Engineering Co-op Program. In analyzing responses, only those that were completed were considered, to ensure consistency between questions.

What year are you in?



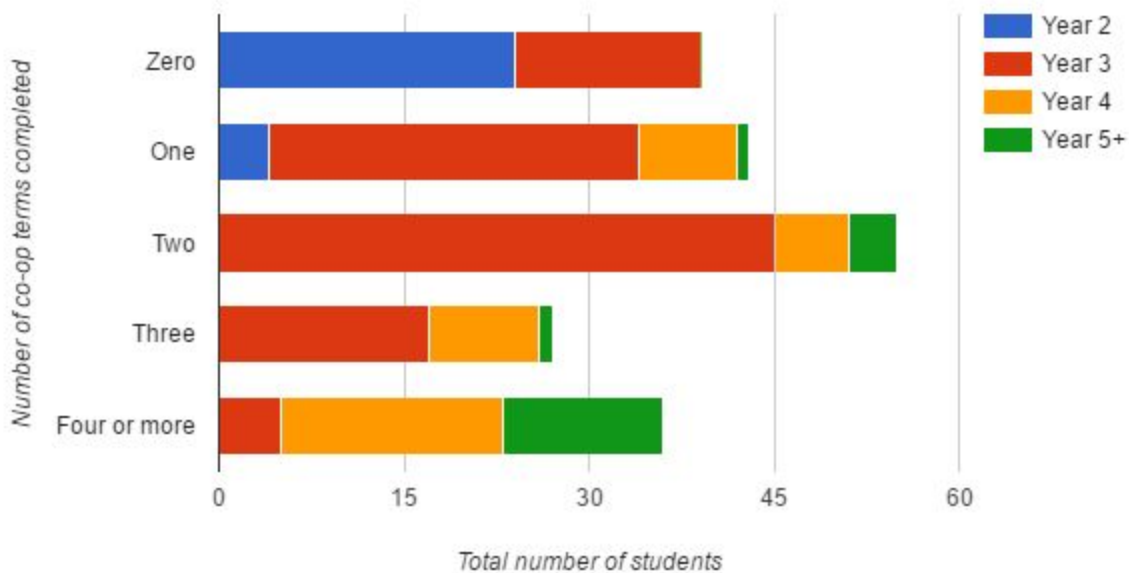
Students from all year levels and disciplines responded to the survey, including those in the first year program. A slight majority of the survey's participants were enrolled in their third year. This can be explained by virtue of the typical co-op work term schedules, which result in many students spending two calendar years with third year academic standing.

What is your discipline?



Department representation from survey respondents generally mirrored that of the actual enrollment numbers of UBC Engineering. A greater percentage of respondents in comparison to discipline enrollment numbers were seen from civil engineering, mechanical engineering, mining engineering, integrated engineering and geological engineering. Under-represented discipline responses were received in chemical/biological engineering, engineering physics and materials engineering. Representation of electrical/computer engineering and environmental engineering respondents matched the actual totals near-identically. No department in the survey varied from their actual representation by more than 6%.

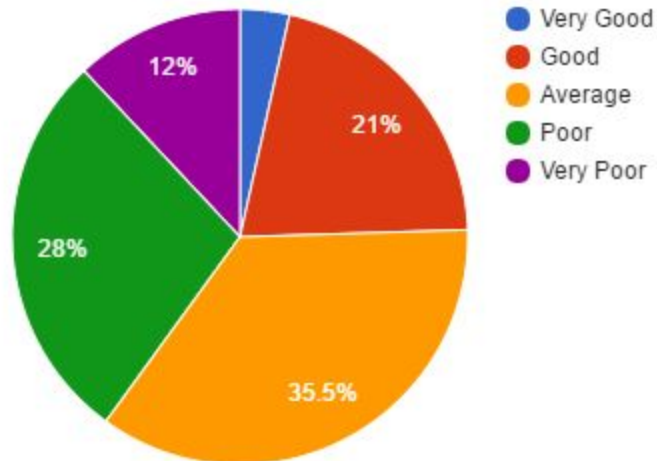
How many co-op terms have you completed?



The chart above shows the number of terms completed by year level. Approximately 80% of the respondents enrolled in the co-op program have completed at least one term. Of note, 15 of the 200 (or 7.5%) of eligible responses to the question above represent students who are in year three or above and are yet to secure a co-op placement. It is also important to consider that students currently holding second year standing are included in this total, and given the schedule of the co-op program, cannot have yet completed a work term.

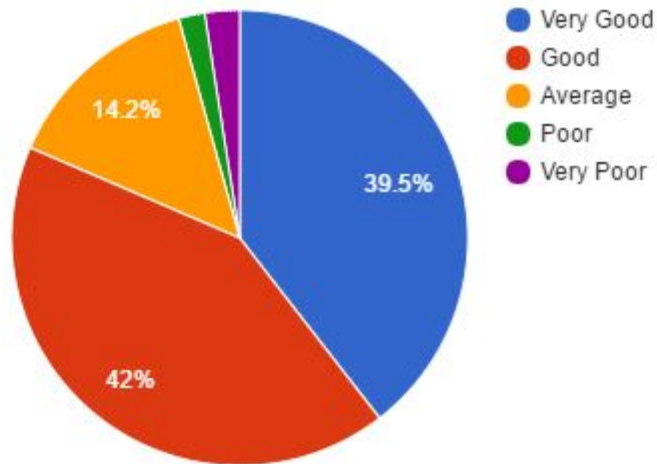
Opinions on Current Co-op Program

How would you describe the overall co-op program experience?



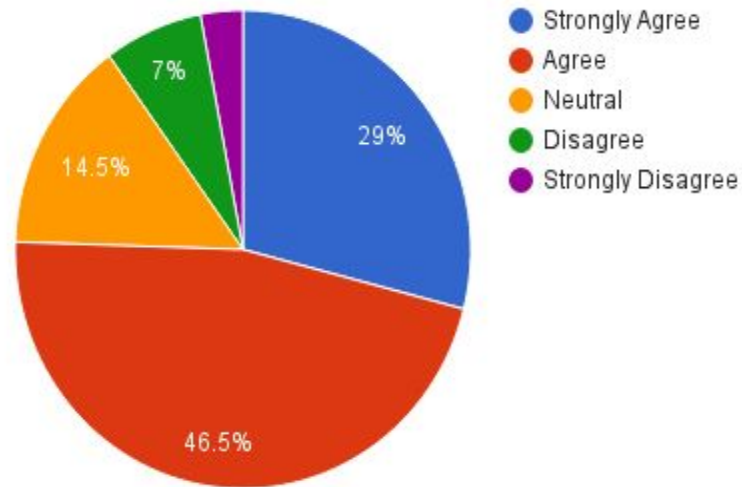
Approximately one-quarter of students in the Engineering Co-op Program describe their overall experience (which in the question was defined to include workshops, staff support, placements and any other part of the program) as either very good or good; this percentage expands to be a majority of respondents when students who rated it as average are included. It is important to note that 40% of students in the co-op program describe their experience as poor or very poor.

How would you describe the work experience you gained at your placement?



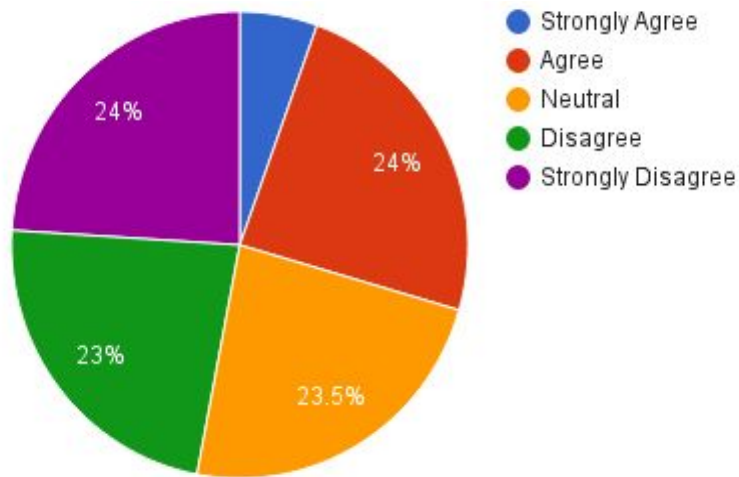
By a very strong majority, engineering students find value in the co-op work experience they are able to gain while at their respective placements. To this effect, just seven out of the 200 (or 3.5%) respondents eligible to answer this question indicated that they had poor or very poor work experience. More than 80% described their experience as good or very good. The EUS commends the Engineering Co-op Program for ensuring that, broadly speaking, engineering students are receiving placements that yield valuable experience.

The Engineering Co-op Program adds value to my degree



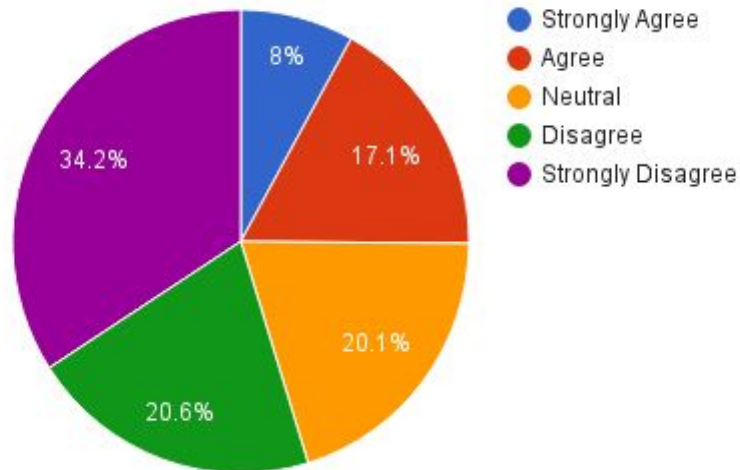
Engineering students, by a wide margin, continue to believe that the co-op program adds value to their degree. Of the respondents enrolled in co-op, just 10% disagreed that it had provided their degree with something more. When compared to the same question asked nearly two years ago in the AES, the results show an approximately 6% increase in the number of students suggesting co-op enhances the value of their degree.

The Engineering Co-op Program offers value for money



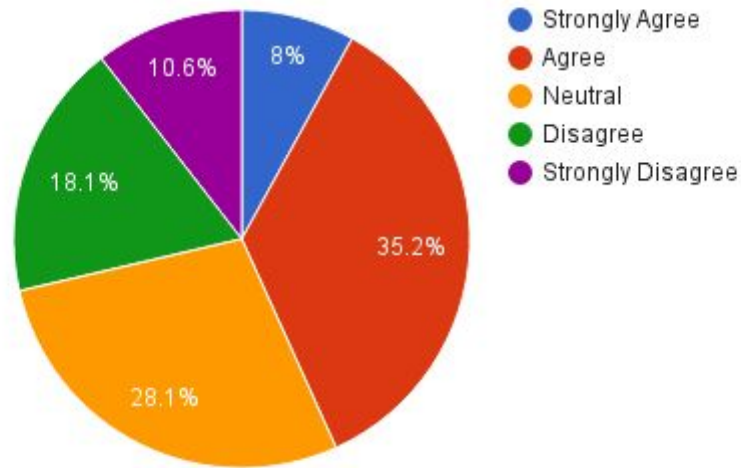
When asked the question above two years ago, approximately 46% of engineering students indicated that they agreed or strongly agreed that the Engineering Co-op Program offers value for money; in this survey, that number stands at just 30% - a significant decrease in a relatively short period of time.

The co-op term assignments are valuable to my career



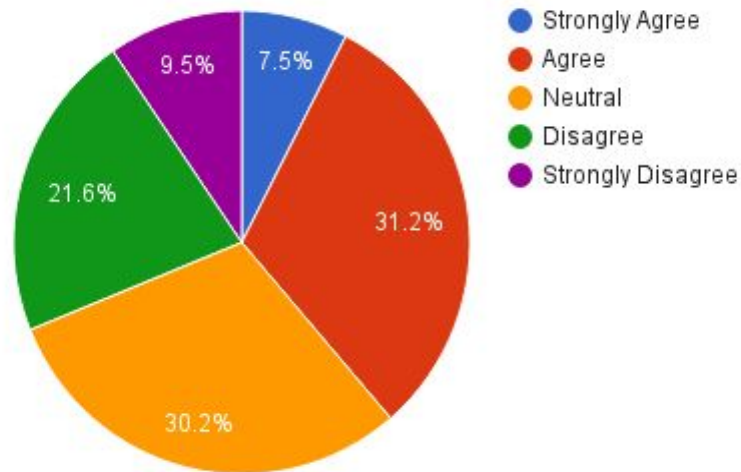
Of the respondents who completed the question above, only one-quarter agreed or strongly agreed that the current co-op term assignments are valuable to their career; a majority (approximately 55%) either disagreed or strongly disagreed with the same statement. In the AES results from two years ago, the EUS found that the third most common concern was around the term assignments. The EUS strongly believes this is an area for possible improvement, as detailed in the Recommendations portion of the report.

The co-op staff are able to help me with my needs/concerns



About 70% of the survey's respondents either agreed, strongly agreed or felt neutral about the ability of the Engineering Co-op Program's staff to assist with their needs and address their concerns. Two years ago in the AES, the second most frequently cited issue with co-op was around the quality of staff assistance; this continues to be a trend in the recently completed survey.

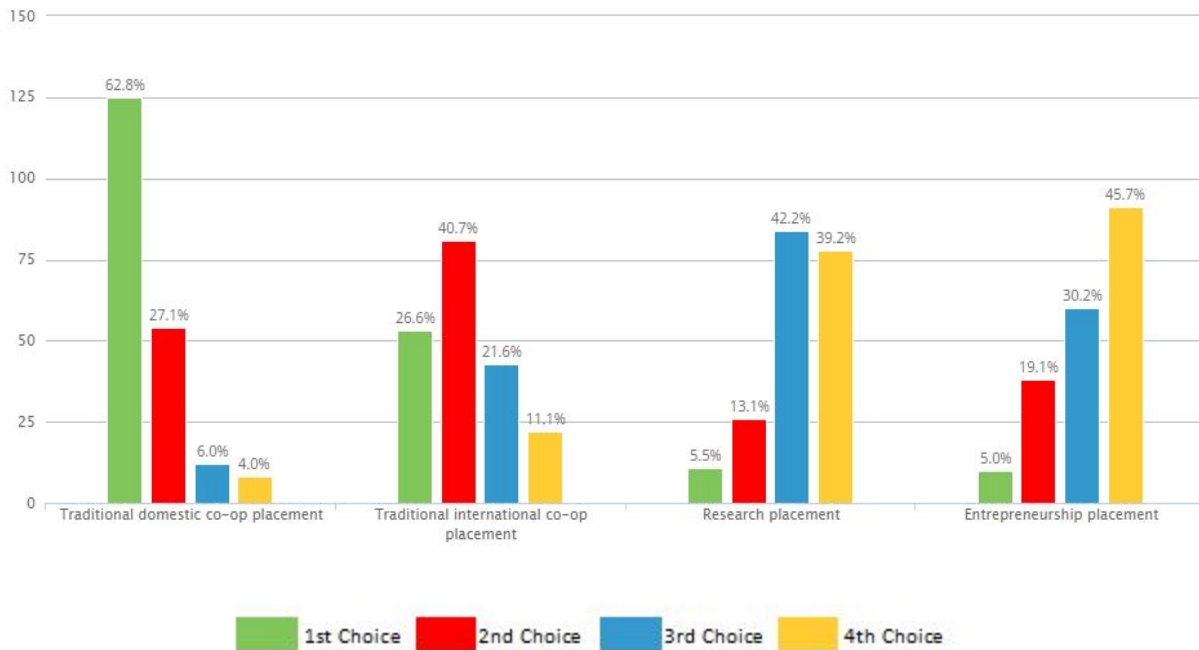
There are a wide variety of positions available on the job board



Of the 200 respondents, approximately 70% either agreed or strongly agreed, or felt neutral, with the statement about the variety of engineering co-op job postings available. Many of the open-ended comments addressed students who felt as though there were a number of irrelevant postings, or that many of the positions that were available were not exclusive to the Engineering Co-op Program (i.e. they were posted publicly through company websites as well).

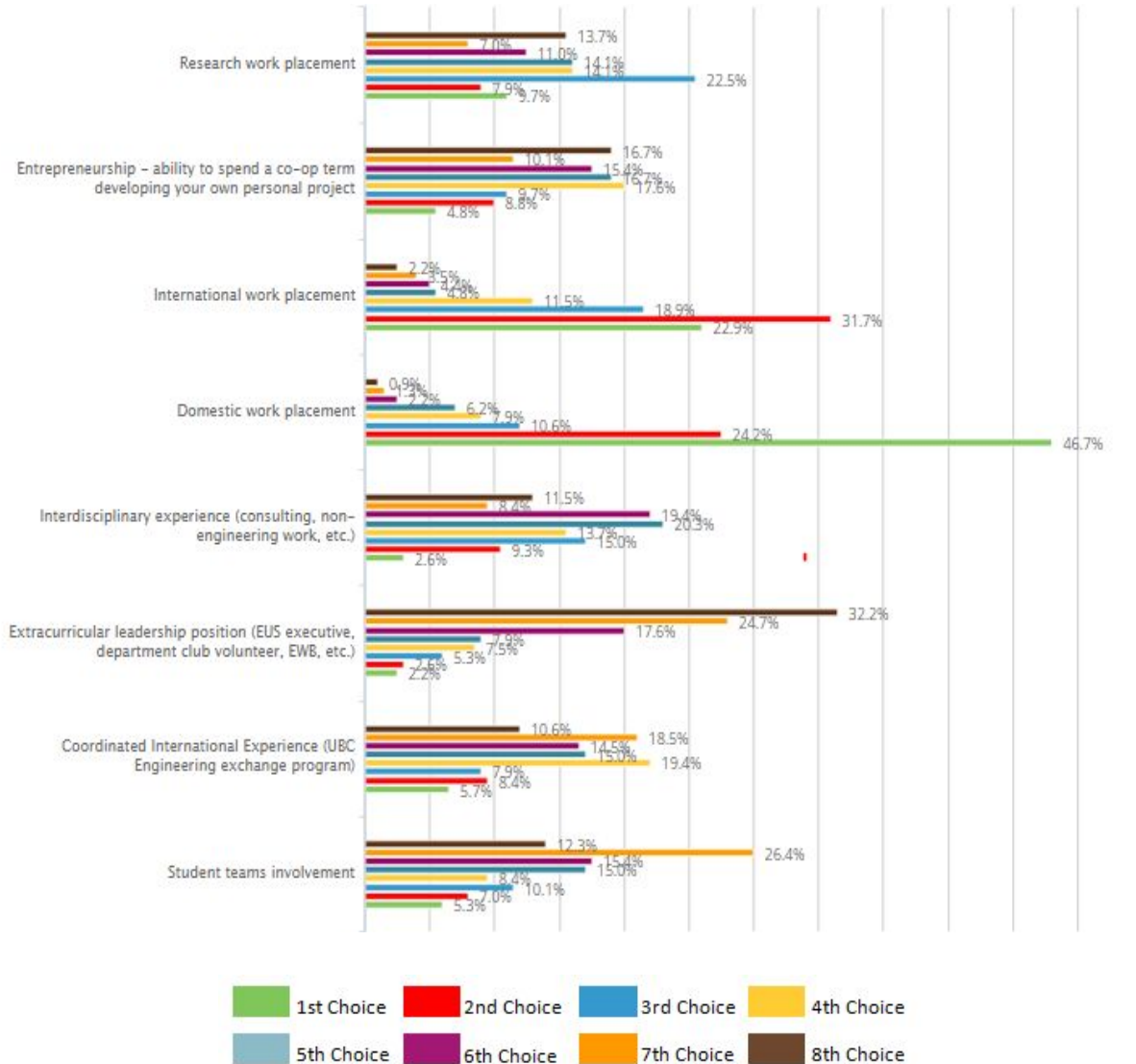
Views Toward Proposed Changes to Co-op Program

If the co-op program were to expand its offerings, in what order would you rank the following options? (1 is top choice)



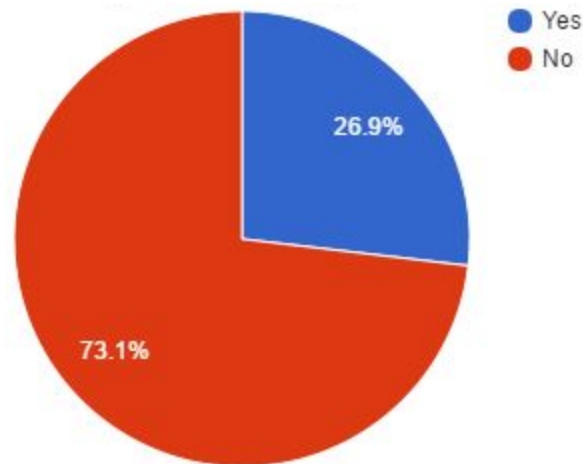
The Engineering Co-op Program currently offers four main opportunities to students: domestic work term placements, international work term placements, research placements and entrepreneurship. Nearly two-thirds of students would still prefer traditional work placements within Canada even if access to the other three opportunities increased, as was proposed in the original question in the survey.

If you were able to do one of the following options for formalized professional development credit, how would you rank them? (1 is top choice)



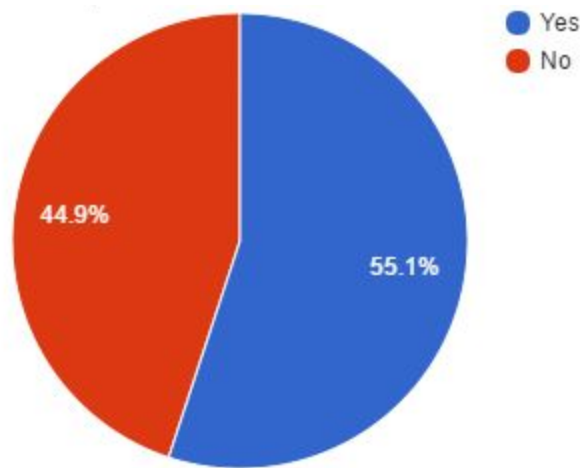
The question above seeks to aggregate the existing options within the co-op program (traditional work placements - international and domestic, research and entrepreneurship) with some of the proposed opportunities (this includes the CIE exchange program, student design teams and other activities). Measured against all of the other options students might potentially have, domestic work placements and international work placements still place ahead of all the other choices by a significant margin. Some of the things students least-valued, at least for formalized credit, of the available options were student leadership positions (such as those within the EUS), the CIE exchange program as well as student design teams involvement.

Would you be willing to work for a term for only the experience and formalized professional development credit? (in other words, no salary)



With nearly three-quarters of students opposed to the idea of unpaid work experiences, it is clear that the engineering student body values paid co-op work opportunities. A number of students also noted their concern with such work opportunities in the open-ended comments section of the survey, which can be found in Appendix B of this report.

Extracurricular involvements (i.e. student teams, EUS/department club executive roles, etc.) should be eligible for formalized professional development credit



By an approximately 45%-55% margin, engineering students would like to see some of the things they are already involved with outside of their coursework recognized for professional development credit. This includes things like student teams, EUS opportunities and more. The EUS believes, pursuant to data from previous editions of the AES, that there is value in encouraging students to get involved beyond the classroom, giving their degree and time in university an additional dimension, which is likely to be furthered by recognizing these commitments.

Recommendations

Based upon data received in this survey, the EUS has five recommendations for the Faculty of Applied Science to implement. The EUS appreciates many of the issues identified by the survey in this report are complex, and likely to require a significant amount of time and, in some cases, money to be improved upon.

1. The Engineering Co-op Program should focus on paid work experiences

Students overwhelmingly expressed, by a roughly 73% to 27% margin, an unwillingness to participate in unpaid work experiences. The EUS is concerned that such opportunities would reduce the Engineering Co-op Program's ability to continue to offer some of the paid co-op work experiences currently available. Our constituents are similarly concerned; one states in a survey response that "there would first be an increase in unpaid internships as companies would then be able to 'hire' a co-op student to work for them for free." Additionally, many of the EUS's constituents have expressed anecdotally that they rely on the earnings they receive from their co-op placement(s) to continue to fund their degree. Should unpaid terms be offered, this would inherently favor students from a more advantageous personal financial situation.

2. The Engineering Co-op Program should emphasize traditional work terms, particularly those within Canada

In the current structure of the Engineering Co-op Program, students currently value domestic co-op placements over the three other options (international placements, research and entrepreneurship) combined. In a proposed structure which would contain the four aforementioned elements as well as some co-curricular experiences, students also ranked domestic co-op placements as their top priority by a wide margin. While international placements continue to hold value within the Engineering Co-op Program structure, they do present an increased financial barrier which, like unpaid experiences, would favor students from a stronger personal financial situation. One student pointed out that they have had to "pay hundreds of dollars in rec fees, event fees, and other service fees for services that [they] aren't using" when out-of-province or abroad.

3. The Engineering Co-op Program should boost staffing levels to meet increasing student demand

Given that only slightly over a quarter of engineering students agree or strongly agree with the statement that co-op offers value for money, and that there has been a significant downward trend in this value-for-money metric, the EUS implores the Faculty of Applied Science to boost staffing levels within the Engineering Co-op Program. In making this recommendation, the EUS takes into consideration the fact that a vast majority of respondents felt that the Engineering

Co-op Program gives their degree added value, and so in order to make sure that remains the case, maintaining student access to staff is paramount. Finally, the EUS wants to ensure for its future constituents that even with increased enrollment (particularly through new programs like Biomedical Engineering) a high quality of service is available. To quote one survey participant: “The cost of the co-op program is exorbitant compared to the value added by...co-op office resources.”

4. The Engineering Co-op Program should review the reports students are required to submit for work terms

Currently, a majority of students feel as though the term assignments that they must complete during each work placement are not contributing to their own development. Given this statistic as well as feedback from the open-ended comments, the EUS recommends that the Engineering Co-op Program consider implementing a choice of reporting options upon the return of students to campus from their placement. In the words of a co-op student in the survey, “The work term reports seem superfluous and unnecessary.” Currently only an option for students completing a fifth work term, presentations would add value as a an alternative to longer written reports. The EUS would encourage the Faculty to explore developing an event like one of the several undergraduate research conferences that currently happen on campus, so that students can share with faculty members, staff and fellow students what they did while at their job site. Additionally, while CAFCE (Canadian Association for Cooperative Education) currently requires formal co-op work term reports, it would be possible to shorten these and transition to include presentations. The Faculty of Applied Science should additionally consider ensuring the new reporting process more closely mirrors the reporting that goes on during the Engineer-in-Training (EIT) process.

5. The Faculty of Applied Science should consider recognizing co-curricular experiences through means external to the Engineering Co-op Program

While there is little doubt that co-curricular experiences are an invaluable part of many students’ time in university, there is a desire among the engineering student body at UBC to see work experience distinguished from these other such opportunities. Students continue to prioritize work terms above all other co-curricular opportunities as shown throughout this report. To draw an example from one of the survey respondents, “[using] student teams/extra curricular involvement would greatly devalue the co-op program.” The EUS believes this distinction between the two categories will allow the Engineering Co-op Program to continue to work on securing more well-paying work experiences for students, while still allowing these other valuable opportunities to be accounted for in a formal way.

Concluding Remarks

This survey has given the Faculty Applied Science a range of recommendations to create a stronger co-op program that meets both current demand and student expectations. Given the critical nature of consultation, the Engineering Undergraduate Society would like to continue to play an active role in the implementation of these recommendations and any further revisions to the Engineering Co-op Program. The Engineering Undergraduate Society thanks every one of our members who took the time to participate in this process.

While the survey does identify a number of areas for improvement on the current program and changes to the proposed program, the Engineering Undergraduate Society looks forward to working with the Faculty of Applied Science to build an improved student experience across the Faculty. The EUS thanks the Faculty of Applied Science for their ongoing willingness to engage and collaborate on addressing topics to interest of students as they arise.

Appendix A: Background on Proposed Changes

The EUS was first made aware of potential changes to the Engineering Co-op Program in the Fall of 2016 through a series of meetings with the Faculty of Applied Science Associate Dean for Education and Professional Development, Dr. Elizabeth Croft, Director of Co-op and Professional Development, Jenny Reilly, and a variety of other staff/administrators. Upon initial consultation with elected student leaders within engineering at the EUS Grand Council as well as the joint Faculty of Applied Science-EUS Student Advisory Council, it was discovered there was significant feedback on the issue of co-op and the proposed 'open co-op' model.

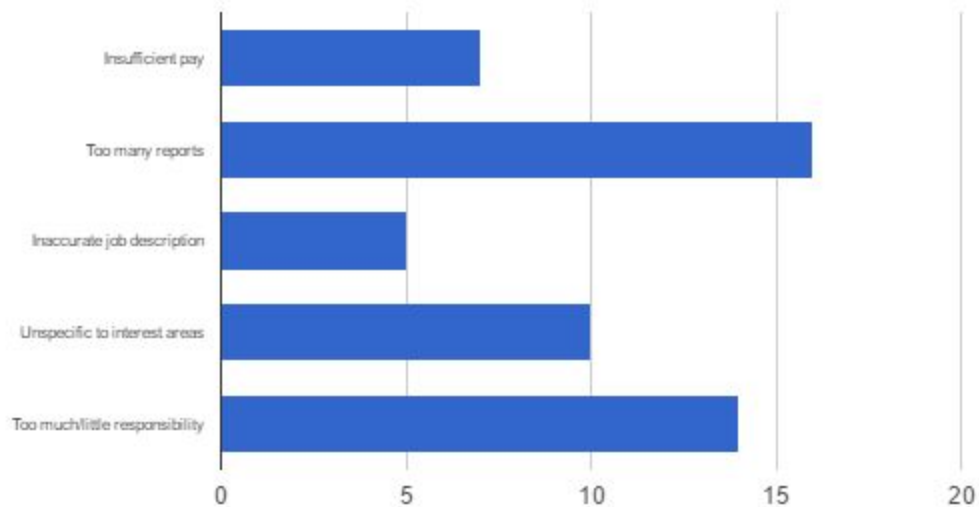
The proposed changes were packaged together as 'open co-op,' through which a variety of co-curricular experiences would be added to the traditional co-op work terms. Traditional work terms, as defined by the Canadian Association for Cooperative Education (CAFCE), are a minimum of 12 weeks in length, with a minimum of 35 hours of work each week (or equivalent hours over the duration of a term). Some of the areas identified by the leadership of the Faculty of Applied Science to be included under the proposed 'open co-op' umbrella include student design teams and student leadership experiences among a variety of other activities, including unpaid work experiences. It is important to note the CAFCE requirements currently necessitate every work term to be compensated in some way, even if not through a salary.

There is a desire on the part of the Faculty of Applied Science to comply with an expected provincial mandate that all students graduate with at least some co-curricular experience. There is some confusion at the present time as to whether that mandate will require it to be labeled as 'co-op' or not.

Appendix B: Summary of Open-Ended Responses

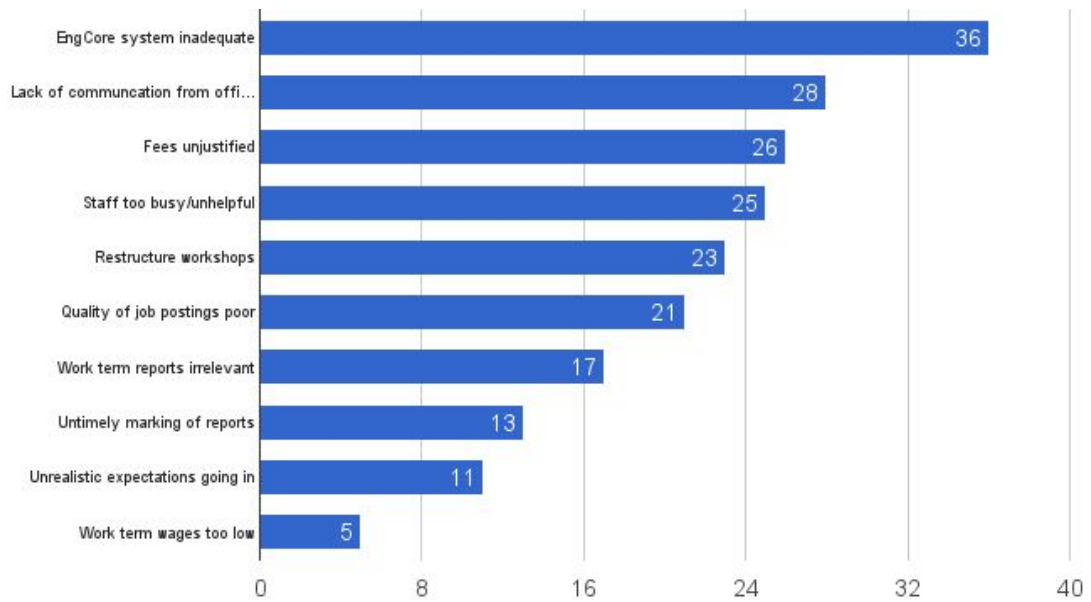
What would have made your work experience better?

Below is a table outlining areas in which students felt there was opportunity for growth within their work term. The list below is not exhaustive of all points raised. The original text is found below.



How can the co-op program improve its service to students?

The table below gives a summary of the themes for improvement within the open-ended responses as assessed by the EUS. It is important to note this is not a flawless method of tabulation, and that the full list of text responses as they originally appeared is located below that.



Number of responses containing above topics

References

- The University of British Columbia (2015). Enrollment Statistics 2015/16 [Report]. Retrieved from: <http://www.calendar.ubc.ca/Vancouver/>
- The Engineering Undergraduate Society of UBC (2015). Summary of AMS Academic Experience Survey 2016: Engineering [Report]. Retrieved from: <http://www.ubcengineers.ca/>
- The Alma Mater Society of UBC Vancouver (2016). 2016 Academic Experience Survey Report. Retrieved from: <http://ams.ubc.ca/>