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THE UNIVERSITY OF BRITISH COLUMBIA

Science Co-op Programs

UBC Science Co-op Programs 2015/16 Annual Report

science co-op

Director's Message

Thank you to our employers, students and faculty for enthusiastically supporting the UBC Science Co-op Programs. In 2015, we had another year of strong growth and exciting initiatives. The number of Co-op placements increased from about 1,750 to over 1,900, with more than 200 new employers (including many international) posting jobs and more than 700 new students admitted to the program.

To better serve our employers and students, we transitioned to a new database, Scope. This new database will not only enhance our interaction with our stakeholders but will provide powerful data analysis capabilities to help us fine-tune our procedures and processes.

I am excited to see how Co-operative Education has helped transform undergraduate education at UBC. In the words of one of our graduating students "UBC Science Co-op has been an unparalleled experience in my life...It has been an incredible addition to my undergraduate experience, producing career prospects, enriching my academic experience, and, most importantly, enabling me to grow as a person." As we celebrate UBC's centennial year, I am very proud of what UBC Co-op Programs have accomplished and look forward to the continued growth of Co-operative education at both our campuses.

I welcome your feedback and comments at iqbal@phas.ubc.ca.

Javed Iqbal
Director, Faculty of Science Co-operative Education Programs

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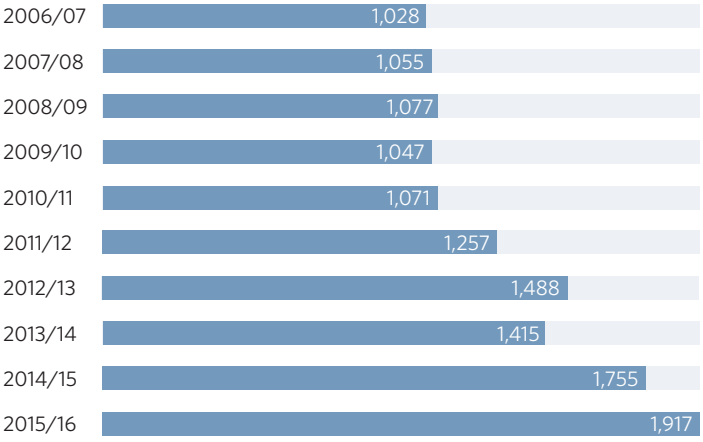
Annual Placements

UBC Science Co-op placed 1,917 students in the 2015/2016 fiscal year, an increase of 9.2% compared to last year's total of 1,755 (See Fig. 1). To date, there are about 2,500 active employers in the Science Co-op database. Last year more than 1,300 organizations posted 4,420 Co-op positions. This report provides program statistics on growth trends, placement location, student demographics, student and employer satisfaction summaries and graduation data.

Fig. 1 Science Co-op Annual Placements



Discipline Trends

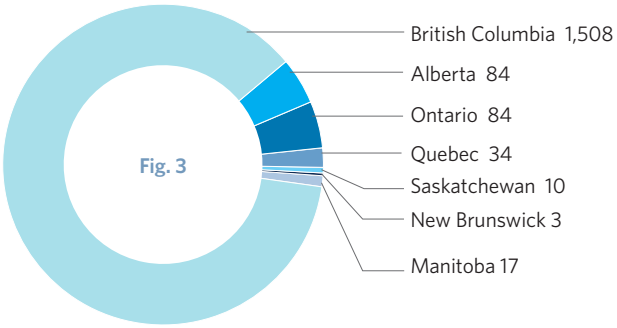
There are 25 program disciplines administered by the UBC Science Co-op program. Programs experiencing significant growth this year are the Computer Science and BCS programs, with a combined increase of placements of 29% (See Fig.2). Also, within the Life Sciences group, Environmental Sciences experienced a 150% increase in placements. We will continue to maintain high placement levels within the computer science as well as in the life sciences/biotechnology fields.

Fig. 2

Discipline	2013/14 Placements	2014/15 Placements	2015/16 Placements	% Change (2015/16 vs 2014/15)
Atmospheric Sciences	6	3	3	0%
Bachelor of Computer Science	74	116	150	29%
Biochemistry	130	157	147	-6%
Biology	139	156	173	11%
Biophysics	12	29	26	-10%
Biotechnology	39	38	39	3%
Biopsychology	3	11	6	-45%
Cellular, Anatomical & Physiological Sciences	15	17	24	41%
Chemistry	94	88	80	-9%
Combined Major in Science	32	48	27	-44%
Cognitive Systems	21	35	27	-23%
Computer Science	307	411	530	29%
Engineering Physics	169	194	192	-1%
Environmental Sciences	23	29	73	152%
Earth & Ocean Sciences	14	11	17	55%
Geographical Biogeosciences	4	14	17	21%
General Science	6	6	1	-83%
Integrated Sciences	44	43	50	16%
Land & Food Systems	65	97	83	-14%
Mathematics	23	29	27	-7%
Microbiology	84	111	115	4%
Pharmacology	25	23	29	26%
Physics	53	55	54	-2%
Statistics	29	28	22	-21%
Statistics (Graduate)	4	6	5	-17%
Total	1,415	1,755	1,917	9%

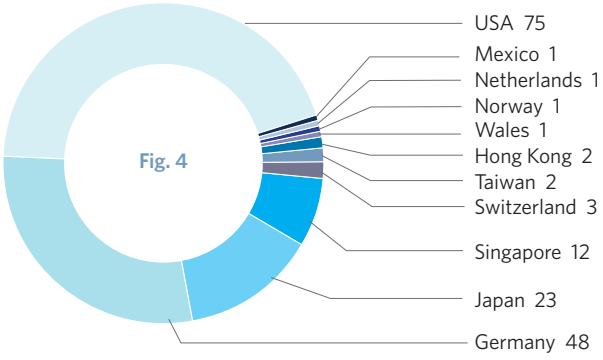
Canadian Placements by Province

Canadian employers, and particularly employers within the GVRD, remain the largest sources of our placements (91% within Canada). Of 1,740 Canadian placements, 86% were located in British Columbia while the rest were spread out as follows: Alberta (5%), Ontario (5%), Quebec (2%), Manitoba (1%), Saskatchewan and New Brunswick (1%). (Fig. 3)



International Placements

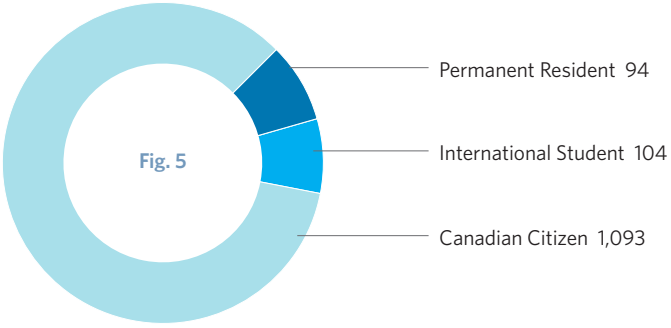
Due to an ongoing effort to provide international experiences to our students the number of international placements continues to grow. There were 169 international placements, with 44% in the USA, 28% in Germany and 13% in Japan. Other countries include Singapore, Switzerland, Taiwan, Norway, Hong Kong, and the Netherlands. Key international hiring employers include Amazon, Pinterest and Tesla in the United States, and Max Planck Institutes in Germany. The partnership with Max Planck Institutes in Germany continues to be a success in providing challenging research opportunities for our students. (Fig. 4)



Student Demographics

With UBC's commitment to increase international student admissions, the number of international students participating in Science Co-op has grown by 30% from 80 to 104.

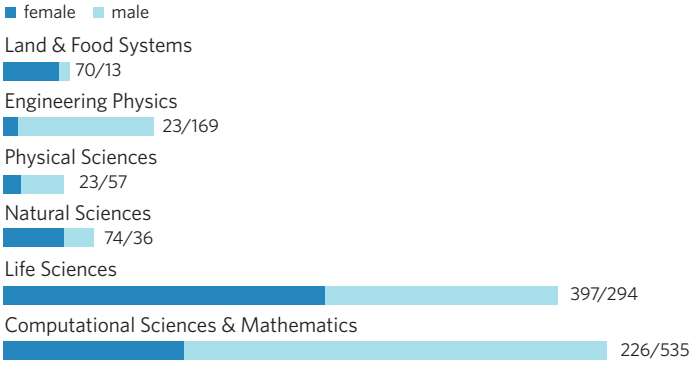
The 1,917 placements were held by 1,291 distinct students, of which 8% are foreign. International students receive assistance from UBC International House and our Co-op staff to acquire their work permit to work in Canada. (Fig. 5)

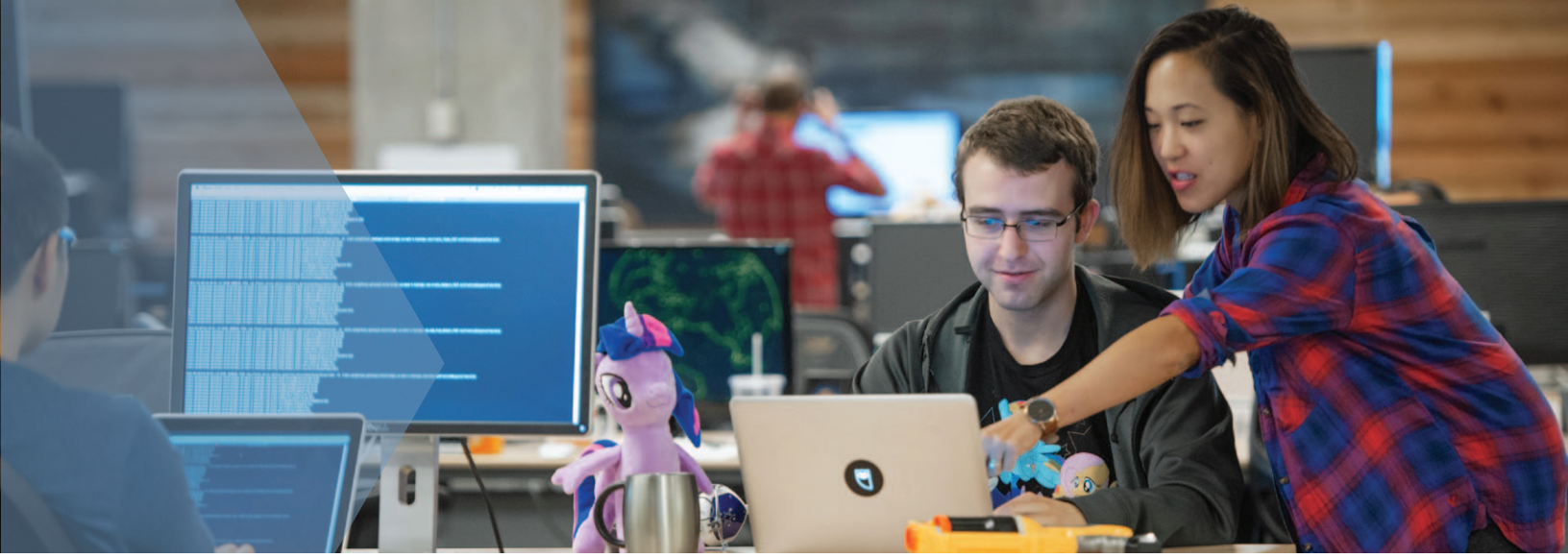


Gender Distribution

Approximately 57% of the students in the Science Co-op Program are male and 43% female. The majority of the programs have an even gender distribution except for Engineering Physics, Computer Science and Physics which continue to be male dominated. There are slightly more females in Biology and Environmental Sciences. (Fig. 6)

Fig. 6 Gender Distribution





Employer Evaluation Summary

Co-op employers are required to complete an online evaluation for each student hired. A summary of employers' evaluations of Co-op students, as well as the Co-op placement process, is provided in the following tables.

Employer Satisfaction with Student's Performance	Collected Responses	%
Very satisfied	580	75%
Satisfied	179	23%
Neither satisfied or unsatisfied	11	1%
Somewhat unsatisfied	3	0%
Unsatisfied	0	0%
Total	773	100%

Employer Satisfaction on Program's Placement Process	Collected Responses	%
Very satisfied	698	91%
Satisfied	55	7%
Neither satisfied or dissatisfied	9	1%
Somewhat dissatisfied	3	0%
Very dissatisfied	0	0%
Total	765	100%

Co-op Graduation

For the BSc and BCS graduating class of May 2016, 20% of students have participated in Co-op. 237 Science Co-op graduates have completed all required work terms and will be receiving a Co-op designation on their official degree parchments. The number of Science graduates who have completed at least one Co-op work term is 307, a 3% increase compared to the last year.

	Number of Science Graduates	Number of Co-op Graduates with Co-op Designation (completed the required work terms)	Number of Co-op Graduates who completed at least one work term
May 2016	1,151	237	307
Nov 2015	107	17	19

Student Evaluation Summary

Co-op students are also required to complete an online evaluation for each work term. A summary of students' evaluations of the Co-op placement and an assessment of the usefulness of the Co-op experience in determining a career path is provided in the tables below.

Student's Overall Satisfaction Level with Placement	Collected Responses	%
Very satisfied	418	50%
Satisfied	312	38%
Neither satisfied or unsatisfied	79	10%
Somewhat unsatisfied	17	2%
Unsatisfied	2	0%
Total	828	100%

Usefulness of Experience Towards Future Career	Collected Responses	%
Very useful	440	53%
Useful	251	30%
Neither useful or unuseful	114	14%
Not very useful	20	2%
Not useful at all	3	0%
Total	828	100%

3 Year Summary At-A-Glance

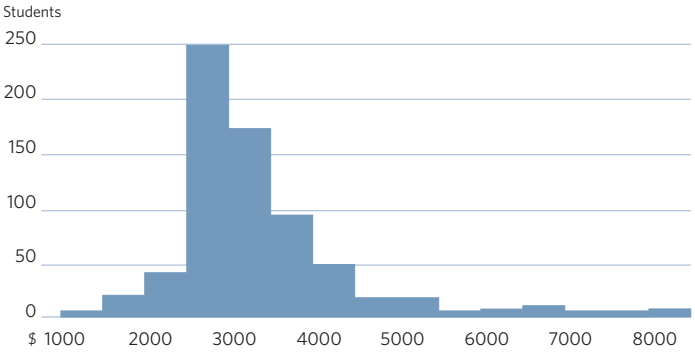
	2013/14	2014/15	2015/16
Total BSc Graduate (May)	1,190	1,122	1,151
Total BSc Co-op Graduates with Co-op Designation (May)	163	214	237
Total BSc Co-op Graduates with at least one work term (May)	264	298	307

Computational & Mathematical Sciences

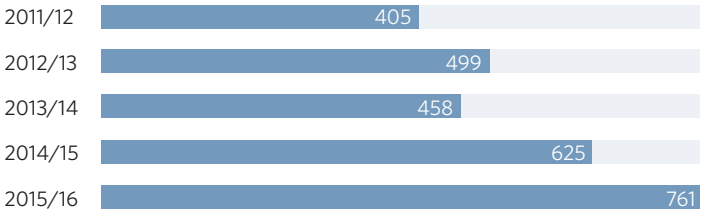
The following Majors fall under Computational & Mathematical Sciences: COGS (Computational Intelligence Design), CPSC (BSc, BA, BCOM) BCS, Mathematics, Statistics and Graduate Statistics.

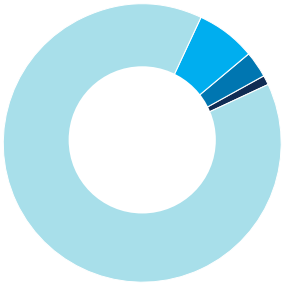
Computational & Mathematical Sciences Co-op students made up 761 of the total placements in the 2015/2016 terms, an increase of 22% from last year. The majority of these placements were in Private Business (89%) with other placements scattered throughout Provincial Agencies, Government Agencies and Non-Profit Organizations. International placements were predominantly in the USA (37), Japan (4) and China (9). Canadian placements were primarily in British Columbia (655) and Ontario (39). The gender distribution was 70% male and 30 % female. Wages in the private sector for most Computational & Mathematical Sciences Co-op placements are higher than most programs. The Tech industry continues to grow and the wage statistics are indicative of this. The lowest monthly wage was $1,614, the highest monthly wage was $8,125 and the average monthly wage was $3,262.

Monthly Salary – Computational & Mathematical Sciences



Total Placements (2011 – 2016)

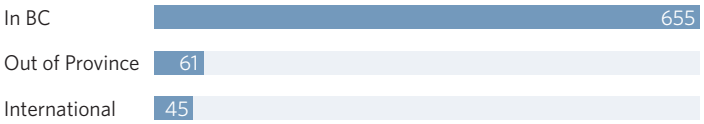




Company Type

Private Business	89%
Provincial Agency	7%
Federal Government	3%
Non-profit Organization	1%

Placement Locations



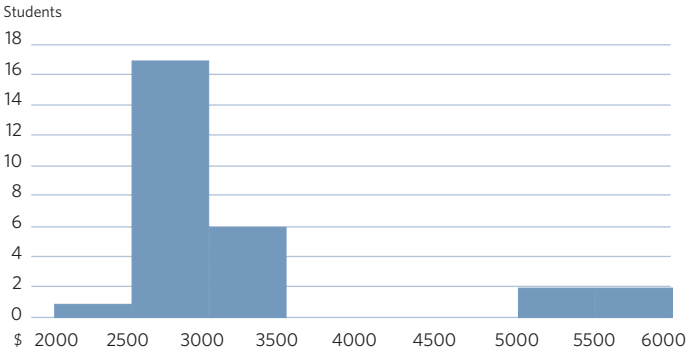
Gender Distribution

Earth and Ocean Sciences

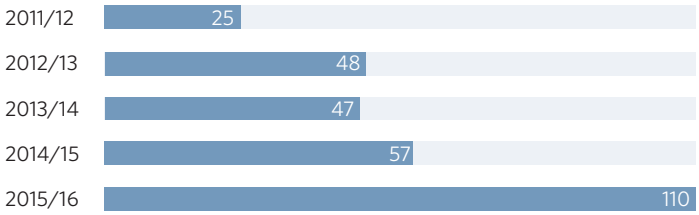
Earth and Ocean Sciences Co-op (Environmental Sciences, Geographical Biogeosciences and Atmospheric Sciences) students made up 110 of the total placements in the 2015/2016 terms, an increase of 93%.

The majority of these placements were in Federal Government (41%), Private Business (30%) and 12% in Provincial Agencies. There was one international placement in Germany. Canadian placements were primarily in British Columbia (69), Alberta (27), and Ontario (4). The gender distribution was 67% female and 33% male. The lowest monthly wage was $1,750, the highest monthly wage was $5,900 and the average monthly wage was $2,987.

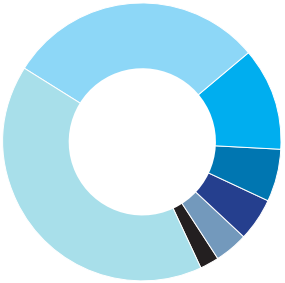
Monthly Salary – Earth and Ocean Sciences



Total Placements (2011–2016)

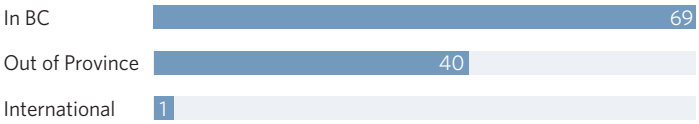


Company Type



Federal Government	41%
Private Business	30%
Provincial Agency	12%
Provincial Government	6%
Non-profit Organization	5%
Federal Agency	4%
Other	2%

Placement Locations



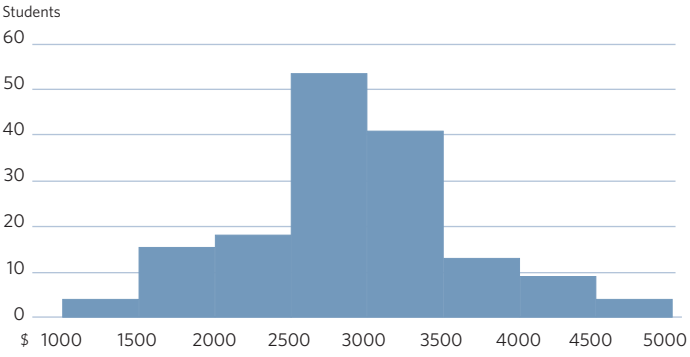
Gender Distribution

Engineering Physics

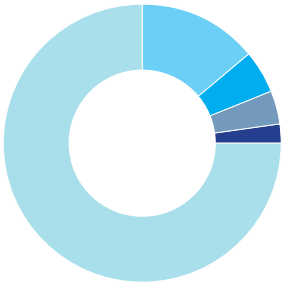
Engineering Physics Co-op students made up 192 of the total placements in the 2015/2016 terms.

The majority of these placements were in Private Business (75%), Provincial Agencies (14%) and Non-Profit Organizations (5%). International placements were largely in Germany (11), USA (9) and Japan (6). Canadian placements were primarily in British Columbia (147), Ontario (9), and Alberta (5). The gender distribution was 88% male and 12% female. The lowest monthly wage was $1,600, the highest monthly wage was $6,460 and the average monthly wage was $2,956.

Monthly Salary – Engineering Physics



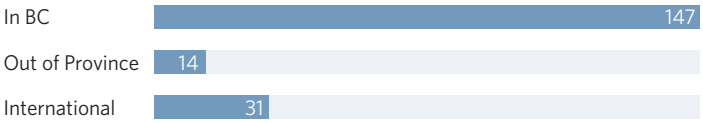
Total Placements (2011–2016)



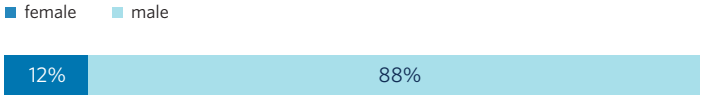
Company Type

Private Business	75%
Provincial Agency	14%
Non-Profit Organization	5%
Federal Agency	4%
Federal Government	2%

Placement Locations



Gender Distribution

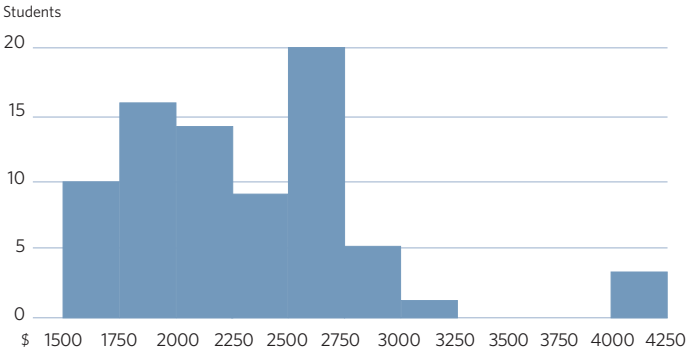


Land and Food Systems

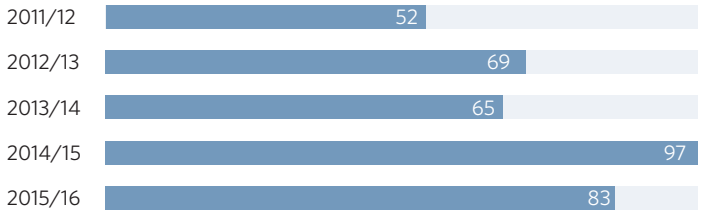
Land and Food Systems Co-op students made up 83 of the total placements in the 2015/2016 terms.

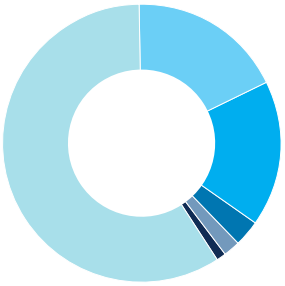
The majority of these placements were in Private Business (59%), Provincial Agencies (17%) and the Federal Government (18%). International placements were largely in Germany (2), China (1) and Italy (1). Canadian placements were primarily in British Columbia (67) and Alberta (7). The gender distribution was 84% female and 16% male. The lowest monthly wage was $1,665, the highest monthly wage was $4,200 and the average monthly wage was $2,315.

Monthly Salary – Land and Food Systems



Total Placements (2011–2016)

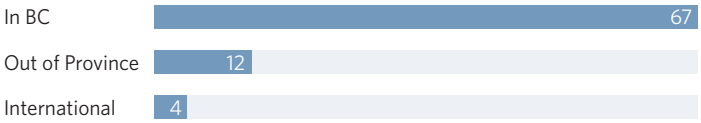




Company Type

Private Business	59%
Federal Government	18%
Provincial Agency	17%
Non-profit Organization	3%
Other	2%
Federal Agency	1%

Placement Locations



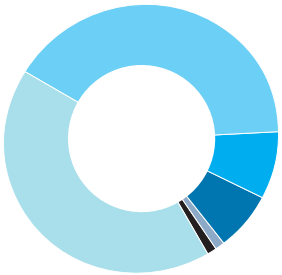
Gender Distribution

Life Sciences

The following majors fall under the Life Sciences: Biochemistry, Biology, Biotechnology, Combined Major in Science, General Science, Cellular, Anatomical & Physiological Sciences, Chemistry, Integrated Sciences, Microbiology, Pharmacology and Biopsychology.

Life Sciences Co-op students made up 691 of the total placements in the 2015/2016 terms. The majority of these placements were in Provincial Agencies (42%) and Private Business (41%). Several students were placed in the Federal Government and in Non-Profit Organizations. International placements were predominantly held in the USA (29), Germany (17), Singapore (10) and Japan (9). Canadian placements were primarily in British Columbia (520), Alberta (32), Quebec (27) and Ontario (23). The gender distribution was 57% female and 43% male. The lowest monthly wage was $1,600, the highest monthly wage was $4,759 and the average monthly wage was $2,192.

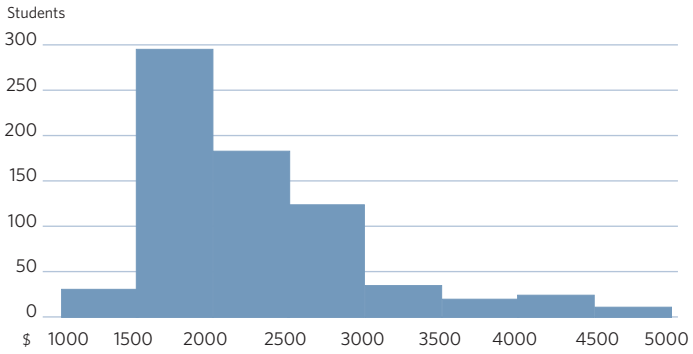
Total Placements (2011–2016)



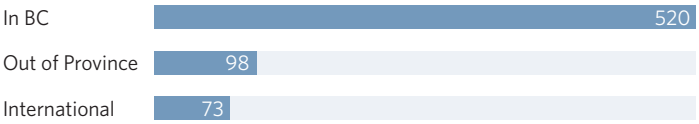
Company Type

Provincial Agency	42%
Private Business	41%
Non-Profit Organization	8%
Federal Government	7%
Federal Agency	1%
Other	1%

Monthly Salary – Life Sciences



Placement Locations



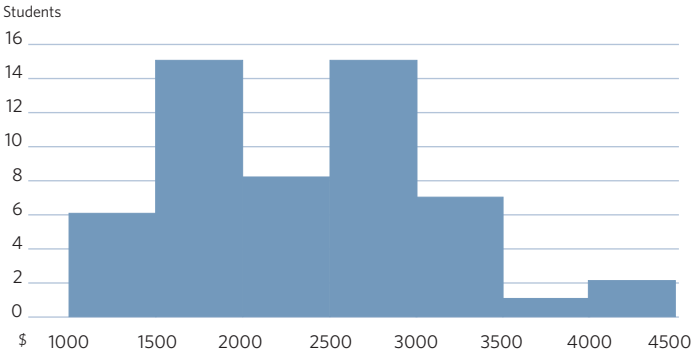
Gender Distribution

Physics and Biophysics

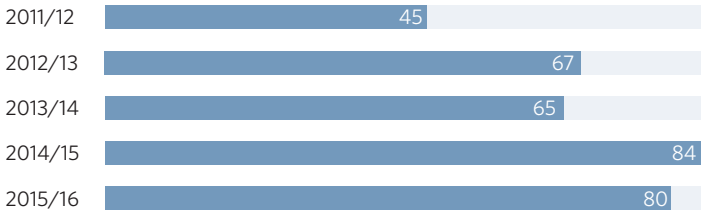
Physics and Biophysics Co-op students made up 80 of the total placements in the 2015/2016 terms.

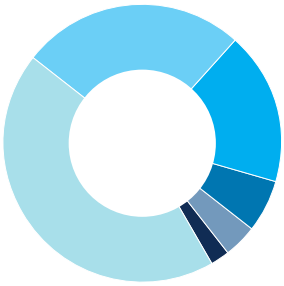
The majority of these placements were in Private Business (44%), Provincial Agencies (26%) and Non-Profit Organizations (18%). International placements were secured in Germany (17), Japan (4), Netherlands (1) and Switzerland (1). Canadian placements were primarily in British Columbia (50), Ontario (6) and Alberta (1). The gender distribution was 71% male and 29 % female. The lowest monthly wage was $1,600, the highest monthly wage was $4,000 and the average monthly wage was $2,421.

Monthly Salary – Physics and Biophysics

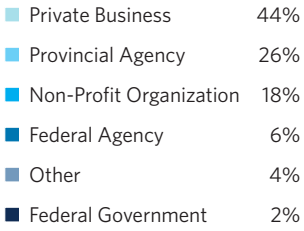


Total Placements (2011–2016)

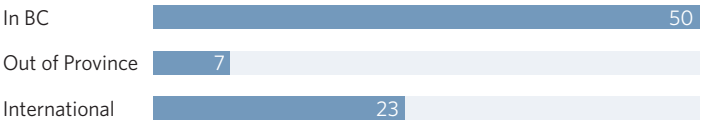




Company Type



Placement Locations



Gender Distribution

Atmospheric Science

Biochemistry & Molecular Biology

Biology

Biophysics

Biopsychology

Biotechnology

Cellular, Anatomical & Physiological Sciences

Chemistry

Combined Major in Science/General Sciences

Computer Science/Bachelor of Computer Science

Cognitive Systems

Earth & Ocean Sciences

Engineering Physics (BASc)

Environmental Sciences

Geographical Biogeosciences

Integrated Sciences

Land & Food Systems

Mathematics

Microbiology & Immunology

Pharmacology

Physics & Astronomy

Statistics (undergraduate & graduate)

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