THE UNIVERSITY OF BRITISH COLUMBIA

Science Co-op Programs

Faculty of Science

Annual Report 2016/17

science co-op

Director's Message

The 2016 year was again a year of strong growth. The number of Co-op placements increased from about 1,925 to 2,070, with 212 international placements. Over 1,250 employers, including many international employers, posted jobs and 815 new students were admitted to the program.

The transition to the new database, Scope, was smooth and successful. The new database has greatly improved for our students the process of viewing, selecting and applying for the co-op jobs. For our employers it has made it easier to post jobs, view applications, select students and schedule interviews. We will continue to improve the capabilities of the new system to better serve our students, employers and the faculty.

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

In the 2016/2017 fiscal year, UBC Science Co-op has surpassed the two thousand mark and achieved an exciting placement total of 2,072 students. This is an 8% increase compared to last year's total of 1,917 placements (see Fig. 1). About 1,300 organizations posted over 4,600 Co-op positions with our program. This report provides program statistics on growth trends, placement location, student demographics, student and employer satisfaction summaries and graduation data.

Discipline Trends

Of the 26 program disciplines administered by the UBC Science Co-op program, Computer Science and Bachelor of Computer Science continue to be our biggest and fastest growing program with a combined total of 839 placements (19% increase), which make up 40% of the program's total placements. Physical Sciences (Physics & Biophysics) also grew by 29% from 80 placements to 103 placements. Life Sciences & Engineering Physics remain at similar placement rates and Earth & Ocean Sciences and Land & Food Systems experienced a small decline in numbers. (See Fig.2)

Fig. 1 Annual Placements

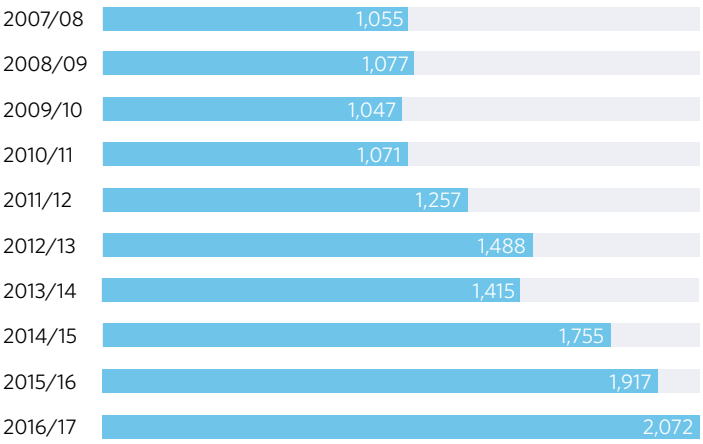


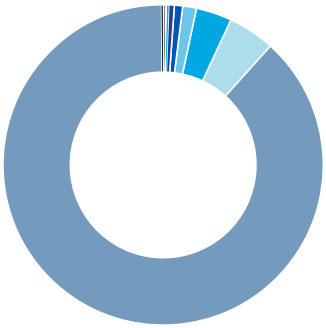
Fig. 2 Discipline Trends

Discipline	2014/15 Placements	2015/16 Placements	2016/17 Placements	% Change (2016/17 vs 2015/16)
Atmospheric Sciences	3	3	5	67%
Bachelor of Computer Science	116	150	177	18%
Biochemistry	157	147	134	-9%
Biology	156	173	168	-3%
Biophysics	29	26	36	38%
Biotechnology	38	39	36	-8%
Biopsychology	11	6	10	66%
Cellular, Anatomical & Physiological Sciences	17	24	22	-8%
Chemistry	88	80	64	-20%
Combined Major in Science	48	27	24	-11%
Cognitive Systems	35	27	26	-4%
Computer Science	411	530	662	25%
Engineering Physics	194	192	198	3%
Environmental Sciences	29	73	58	-21%
Earth & Ocean Sciences	11	17	19	12%
Geographical Sciences	14	17	5	-71%
General Science	6	1	0	-100%
Integrated Sciences	43	50	55	10%
Land & Food Systems	97	83	74	-11%
Mathematics	29	27	31	15%
Microbiology	111	115	134	17%
Pharmacology	23	29	28	-3%
Physics	55	54	67	24%
Statistics	28	22	28	27%
Statistics (Graduate)	6	5	11	120%
Total	1755	1917	2072	8%
Group				
Computational Sciences & Mathematics	625	761	935	23%
Engineering Physics	194	192	198	3%
Land & Food Systems	97	83	74	-11%
Life Sciences	698	691	675	-2%
Natural Sciences	57	110	87	-21%
Physics and Biophysics	84	80	103	29%
Total	1755	1917	2072	8%

Canadian Placements by Province

With 90% of our total placements occurring within Canada, Canadian employers remain the largest source. Of the 1,860 placements in Canada this year, most were located within BC (89%), while the rest were located as follows: Ontario (5%), Alberta (4%), Quebec (1%), Saskatchewan (1%), and Manitoba/New Brunswick/Nova Scotia/Yukon together (1%).

Nova Scotia	1
Yukon	1
New Brunswick	3
Manitoba	6
Saskatchewan	16
Quebec	27
Alberta	65
Ontario	88
British Columbia	1,653



International Placements

The number of our international placements continues to grow, with 212 in total, representing an increase of 25% from last year. Of those, most were in the USA (42%), followed by Germany (23%) and Singapore (11%). Other countries include Japan, China, Italy, Australia, Austria, Indonesia, Korea and Taiwan. Key international hiring employers include Bayer, Amazon, Facebook, and Solvay in the USA, Laser Zentrum Hannover and the Max Planck Institute in Germany, and the National University of Singapore, the Institute of Medical Biology, and the Genome Institute in Singapore.

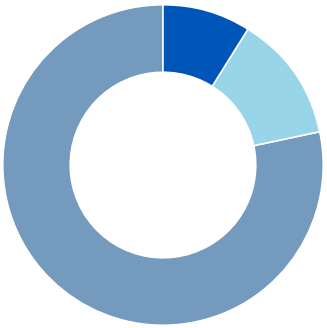
Australia	2
Austria	2
Belgium	1
China	10
France	1
Germany	49
Indonesia	2
Italy	8
Japan	16

Korea	2
Mexico	1
Singapore	23
South Africa	1
Switzerland	1
Taiwan	2
Thailand	1
The Netherlands	1
UK	1
USA	88

Student Demographics

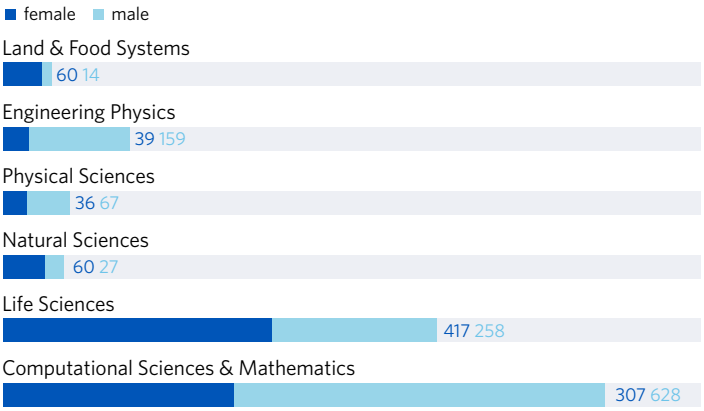
International student enrollment in Science Co-op continues to grow, from 104 last year to 181 students this year, an increase of 74%. The 2,072 placements were held by 1,394 distinct students, of which 13% are international students.

Permanent Resident	124
International Student	181
Canadian Citizen	1,089



Gender Distribution

Of the 2,072 placements this year, 44% were held by female students, and 56% by male students. Engineering Physics and Atmospheric Sciences are male dominated (80% and 100% respectively), while Cognitive Systems (Cognition & Brain), Environmental Sciences, Land & Food Systems, and Geographical Sciences are female dominated (100%, 83%, 81% and 80% respectively).



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	%
Excellent Performance	822	59%
Very Good Performance	465	34%
Average	85	6%
Needs Improvement	11	1%
Unsatisfactory/Failed Co-op Work Term	1	0%
Total	1,384	100%

Employer Satisfaction on Program's Placement Process	Collected Responses	%
Very Satisfied	1,131	82%
Somewhat Satisfied	172	12%
Neutral	33	2%
Somewhat Dissatisfied	8	1%
Very Dissatisfied	10	1%
Did not respond	30	2%
Total	1,384	100%

Co-op Graduation

For the BSc and BCS graduating class of May 2017, over 30% of students in the faculty have participated in Co-op. 304 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 433, a 40% increase compare 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 2017	1,366	304	433
Nov 2016	98	17	24

Student Evaluation Summary

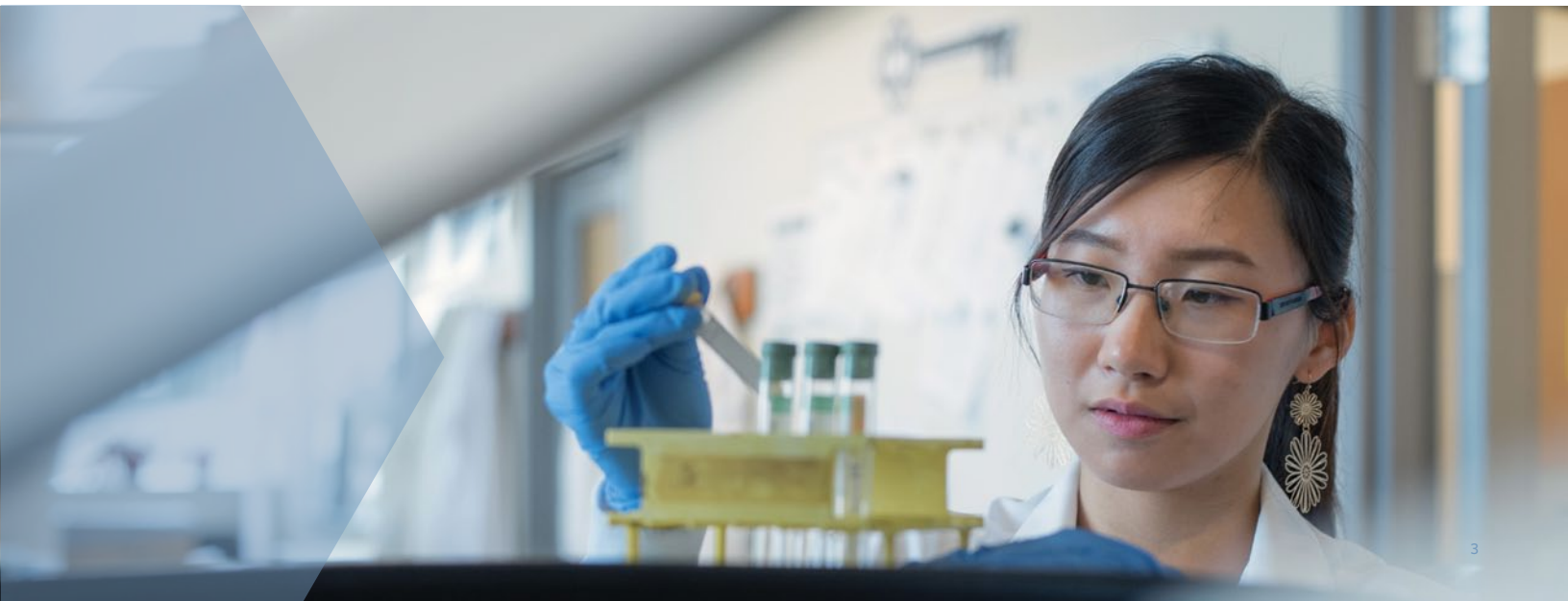
Co-op students are also required to complete an online evaluation for each work term. A summary of students' evaluations of the Co-op placement and an assessment of the usefulness of the Co-op experience in determining a career path is provided in the tables below.

Student's Overall Satisfaction Level with Placement	Collected Responses	%
Extremely satisfied	732	50%
Very satisfied	583	40%
Neutral	126	9%
Not satisfied	21	1%
Extremely unsatisfied	8	1%
Total	1,470	100%

Usefulness of Experience Towards Future Career	Collected Responses	%
Very useful	829	56%
Useful	453	31%
Neutral	149	10%
Not very useful	22	1%
Not useful at all	12	1%
Did not respond	5	0%
Total	1,470	100%

3 Year Summary At-A-Glance

	2014/15	2015/16	2016/17
Total BSc Graduate (May)	1,122	1,151	1,366
Total BSc Co-op Graduates with Co-op Designation (May)	214	237	304
Total BSc Co-op Graduates with at least one work term (May)	298	307	433

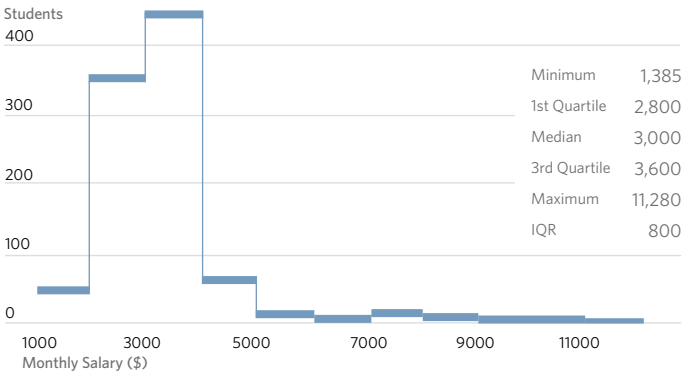


Computational & Mathematical Sciences

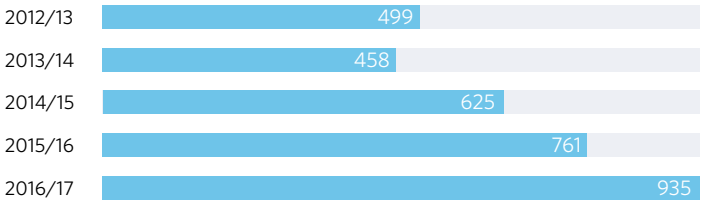
The following majors fall under Computational & Mathematical Sciences: Cognitive Systems (Computational Intelligence & Design), Computer Science (BA, BCOM, BCS, BSc), Mathematics, Statistics, and Graduate Statistics.

Computational & Mathematical Sciences Co-op students had 935 total placements for 2016/17, an increase of 23% from 2015/16. The majority of these placements were in Private Business (89%), while the majority of other placements took place in Provincial Agencies, Federal Government and Federal Agencies. Most international placements were in the USA (43), with several in Japan (12) and China (4). Other international locations included Austria (2), Taiwan (2), Indonesia, Singapore and Switzerland (1 each). Canadian placements were mostly in BC (809), while most out-of-province placements were in Ontario (51). There were also placements in Quebec (2). The gender distribution was 67% Male to 33% Female. The lowest monthly wage was $1,385, the highest monthly wage was $11,280 and the average monthly wage was $3,000.

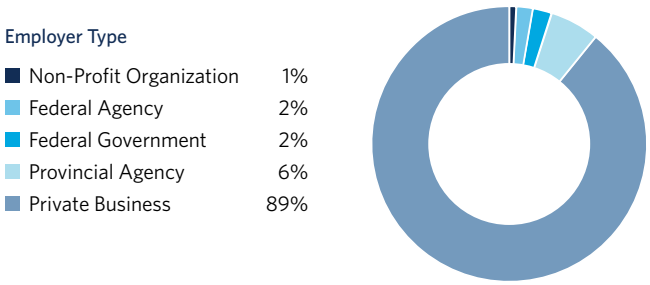
Salary Distribution of Computational & Mathmatical Sciences Students



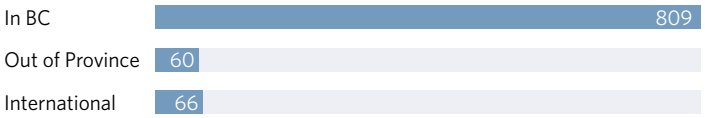
Total Placements



Employer Type



Placement Locations



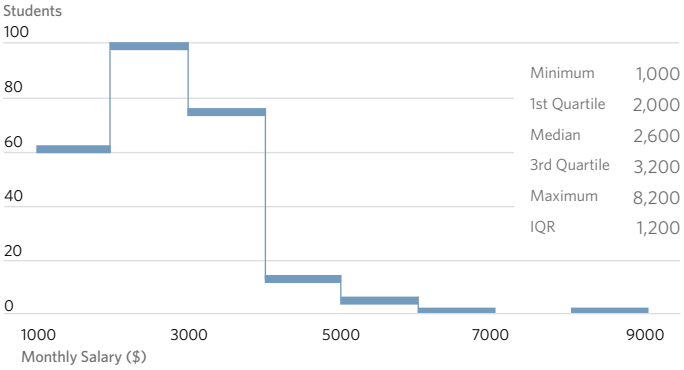
Gender Distribution

Engineering Physics

There were 198 total placements for Engineering Physics students in the 2016/17 terms, representing a growth of 3% from 2015/16.

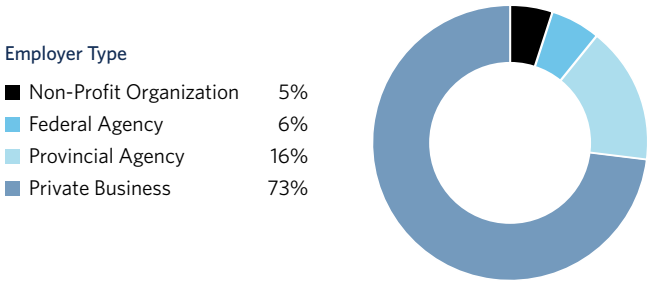
Most of these placements occurred in the realm of Private Business (73%), with Provincial Agencies being second place (16%). Most international placements were in Germany (50%) and the USA (31%). Additional placements took place in China (2), France (1), Singapore (1), and the Netherlands (1). Canadian placements were mostly in BC (156), while out-of-province placements occurred mostly in Ontario (10) and Alberta (5). There was also 1 placement in Nova Scotia. Gender distribution was 80% Male to 20% Female. The lowest monthly wage was $1,000, the highest monthly wage was $8,200 and the average monthly wage was $2,600.

Combined Salary Distribution of Engineering Physics and Physics and Biophysics students

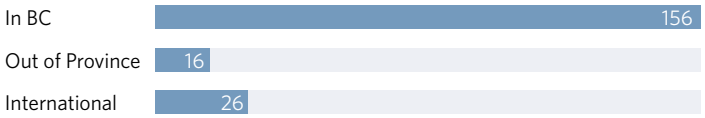


Total Placements

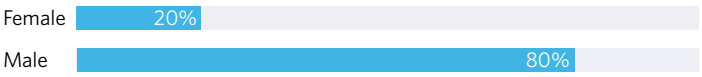
Employer Type



Placement Locations



Gender Distribution

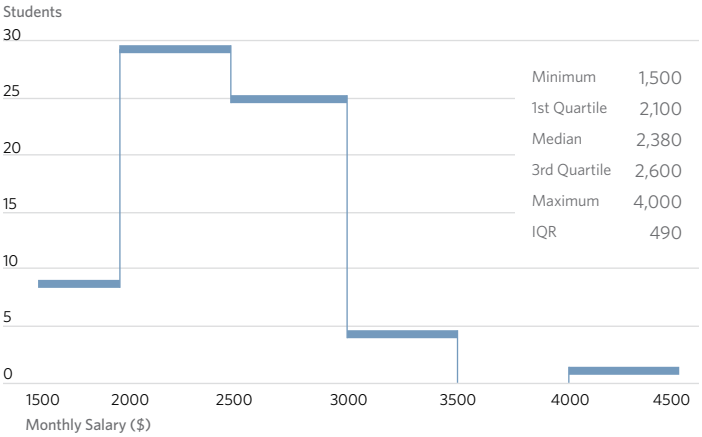


Land and Food Systems

There were 74 total placements for Land and Food Systems students in 2016/17.

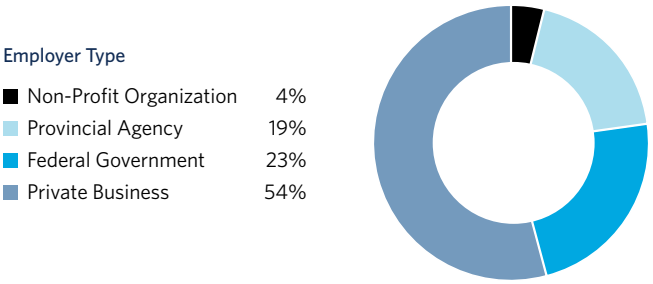
Most were in Private Business (54%), Federal Government (23%) and Provincial Agencies (19%). International placements took place in Italy (2) and China (1). In Canada, most placements were in BC (62), while out-of-province placements took place in Saskatchewan (4), Alberta (3) and Ontario (2). Gender distribution was 81% Female to 19% Male. The lowest monthly wage was $1,500, the highest monthly wage was $4,000 and the average monthly wage was $2,380.

Salary Distribution of Land and Food Systems Students

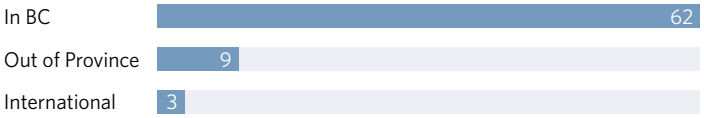


Total Placements

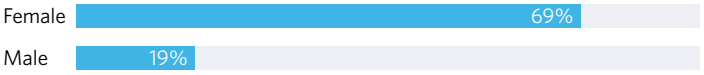
Employer Type



Placement Locations



Gender Distribution

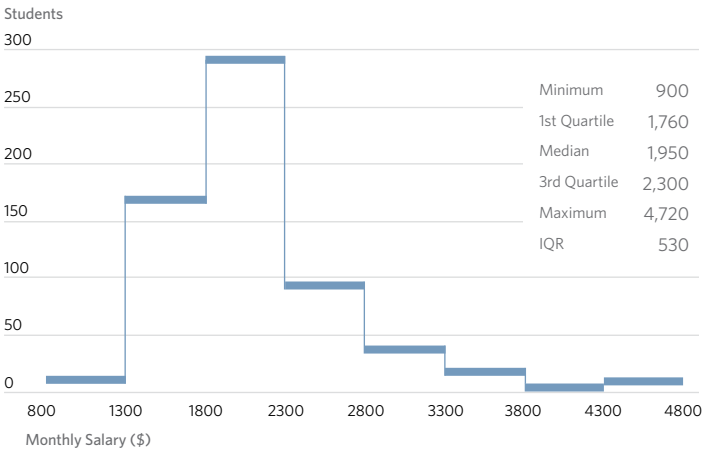


Life Sciences

The Life Sciences Co-op program includes Biochemistry, Biology, Biotechnology, Biopsychology, Cellular, Anatomical & Physiological Sciences (CAPS), Chemistry, Combined Major in Science, Cognitive Systems (Cognition & Brain Stream), General Science, Integrated Sciences, Microbiology, and Pharmacology.

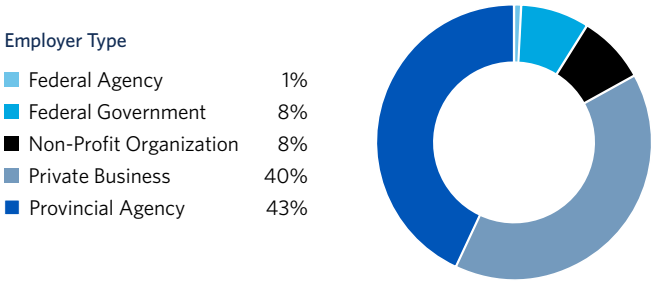
There were 675 total placements for Life Sciences students in 2016/17, most of which took place in Provincial Agencies (43%) and Private Business (40%). Along with the highest number of international placements (71), the Life Sciences also had the widest international placement distribution, the majority of which were in the USA (33) and Singapore (16). Additional international locations included Germany (6), Italy (4), China (3), Japan (2), Korea (2), Australia (2), Belgium, Mexico and the UK (1 each). Most Canadian placements were in BC (522), while most out-of-province placements were in Alberta (28), Quebec (21), and Ontario (15). Other provinces included Manitoba (6), Saskatchewan (11), and Yukon (1). Gender distribution was 62% Female to 38% Male. The lowest monthly wage was $900, the highest monthly wage was $4,720 and the average monthly wage was $1,950.

Salary Distribution of Life Sciences Students

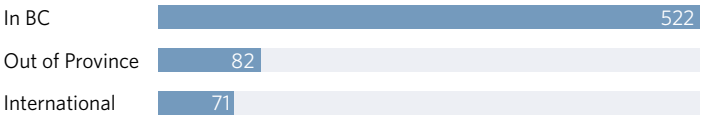


Total Placements

Employer Type



Placement Locations



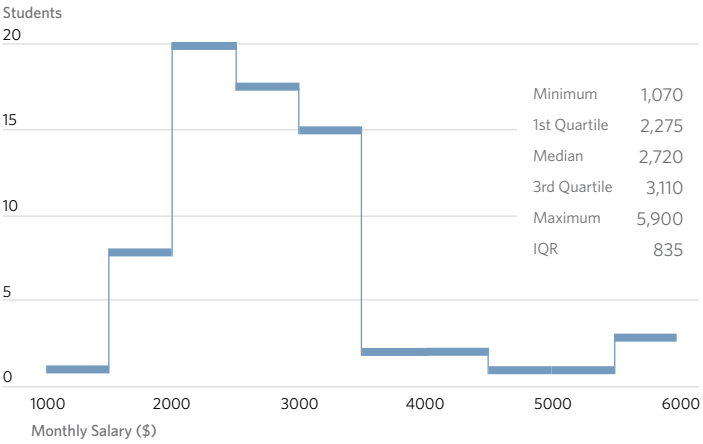
Gender Distribution

Natural Sciences

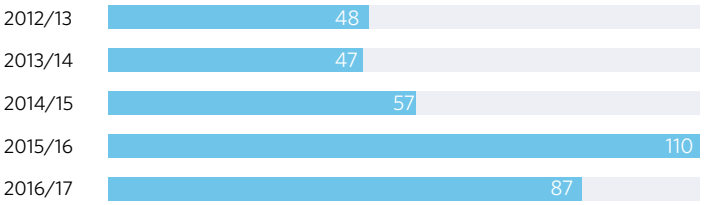
Natural Sciences Co-op is comprised of Atmospheric Science, Environmental Sciences, Earth & Ocean Sciences, and Geographical Sciences.

Students from the Natural Sciences majors had 87 placements for 2016/17. The majority of these placements were in Private Business (42%) and Federal Government (32%). Provincial Agencies had the third most number of placements (15%). There were 7 international placements, 3 of which were in the USA, and 1 each in Thailand, South Africa, Indonesia, and Germany. The majority of Canadian placements took place within BC (522), with most of out-of-province placements in Alberta (19). Other Canadian placements took place in Ontario (5), Quebec (3), New Brunswick (3), and Saskatchewan (1). Gender distribution was 69% Female to 31% Male. The lowest monthly wage was 1,070, the highest monthly wage was $5,900 and the average monthly wage was $2,720.

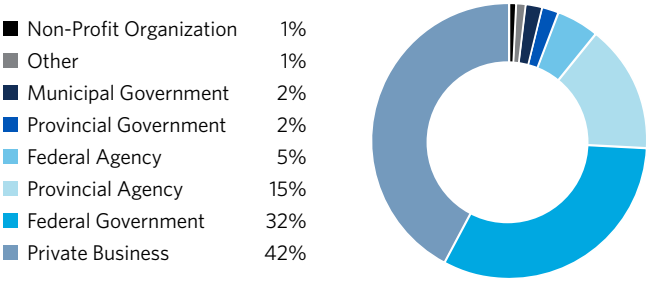
Salary Distribution of Natural Sciences Students



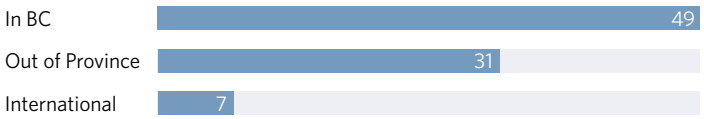
Total Placements



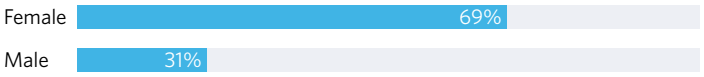
Employer Type



Placement Locations



Gender Distribution

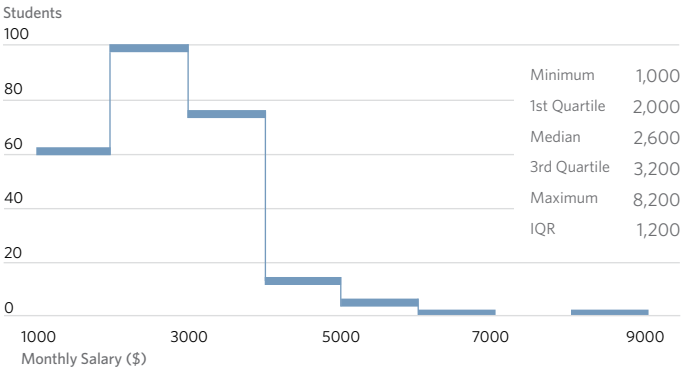


Physics and Biophysics

Physics and Biophysics students made up 103 of the total placements for 2016/17, an increase of 29% from last year.

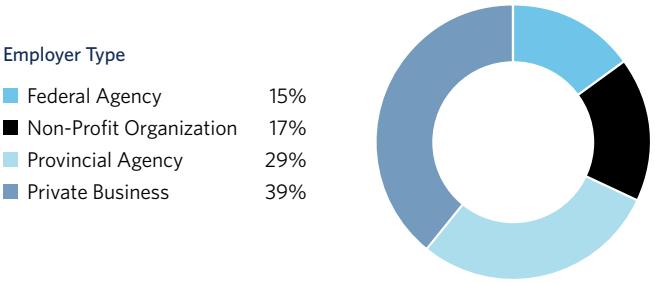
Most of these placements were in Private Business (39%), Provincial Agencies (29%), and Federal Agencies (15%). International placements increased by 70% from last year, with most taking place in Germany (29). Other international locations included Singapore (5), Japan (2), Italy (2), and the USA (1). Canadian placements were mostly in BC (55), while Ontario and Alberta provided most of the out-of-province placements (5 and 3 respectively). There was also one placement in Quebec. Gender distribution was 65% Male to 35% Female. The lowest monthly wage was $1,000, the highest monthly wage was $8,200 and the average monthly wage was $2,600.

Combined Salary Distribution of Engineering Physics and Physics and Biophysics students

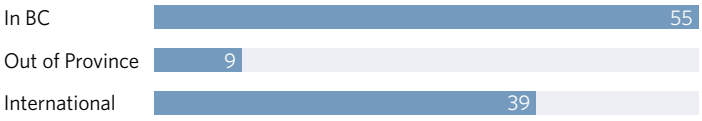


Total Placements

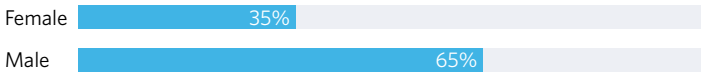
Employer Type



Placement Locations



Gender Distribution



Atmospheric Science

Biochemistry & Molecular Biology

Biology

Biophysics

Biopsychology

Biotechnology

Cellular, Anatomical & Physiological Sciences

Chemistry

Cognitive Systems

Combined Major in Science/General Sciences

Computer Science/Bachelor of Computer Science

Earth & Ocean Sciences

Engineering Physics (BASc)

Environmental Sciences

Geographical Sciences

Integrated Sciences

Land & Food Systems

Mathematics

Mathematical Sciences

Microbiology & Immunology

Pharmacology

Physics & Astronomy

Statistics (undergraduate & graduate)

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