Pro Vice-Chancellor Education / EI&A

Student Satisfaction Report

Faculty of Science

H. Cho, 31/03/2019

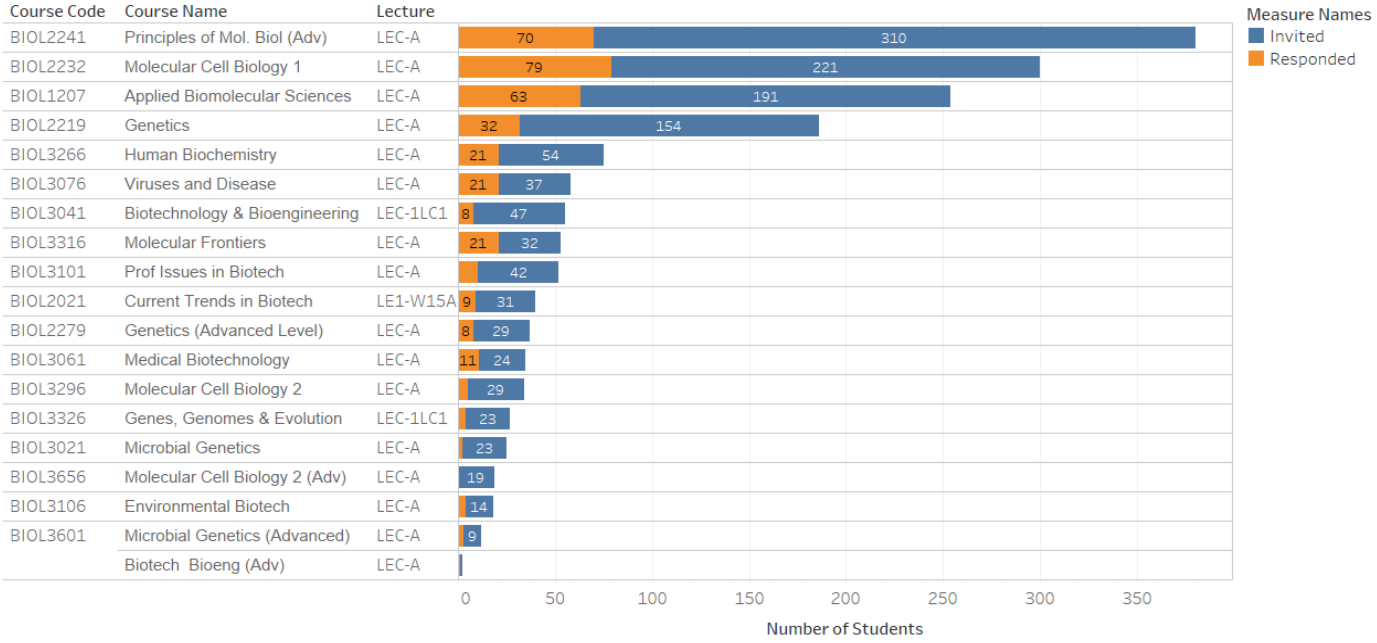
Outline: This report aims to provide a summary of student satisfaction per school/course/lecture. How course/lecture sizes influence student satisfaction ratings will also be examined.

Results: The proportion of students that were invited vs. responded to the survey per school/course/lecture is shown below in Table 1. When comparing between schools, Mathematics had the highest response rate (29.70%) with Biology second (28.84%), Chemistry third (26.47%) and Physics fourth (25.89%).

Table 1. Proportion of Students that were Invited vs. Responded to the Survey

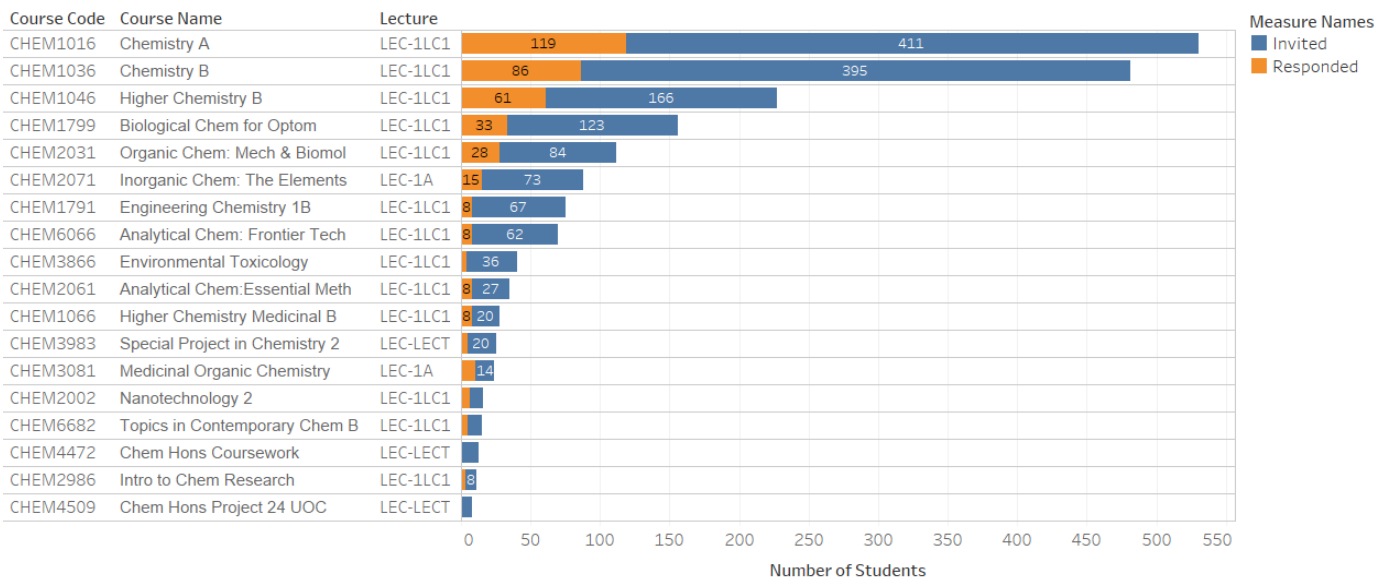
BIOLOGY

Course Code	Course Name	Lecture	Invited	Responded
BIOL2241	Principles of Mol. Biol (Adv)	LEC-A	310	70
BIOL2232	Molecular Cell Biology 1	LEC-A	221	79
BIOL1207	Applied Biomolecular Sciences	LEC-A	191	63
BIOL2219	Genetics	LEC-A	154	32
BIOL3266	Human Biochemistry	LEC-A	54	21
BIOL3076	Viruses and Disease	LEC-A	37	21
BIOL3041	Biotechnology & Bioengineering	LEC-1LC1	47	8
BIOL3316	Molecular Frontiers	LEC-A	32	21
BIOL3101	Prof Issues in Biotech	LEC-A	42	
BIOL2021	Current Trends in Biotech	LE1-W15A	31	9
BIOL2279	Genetics (Advanced Level)	LEC-A	29	8
BIOL3061	Medical Biotechnology	LEC-A	24	11
BIOL3296	Molecular Cell Biology 2	LEC-A	29	
BIOL3326	Genes, Genomes & Evolution	LEC-1LC1	23	
BIOL3021	Microbial Genetics	LEC-A	23	
BIOL3656	Molecular Cell Biology 2 (Adv)	LEC-A	19	
BIOL3106	Environmental Biotech	LEC-A	14	
BIOL3601	Microbial Genetics (Advanced)	LEC-A	9	
	Biotech Bioeng (Adv)	LEC-A		

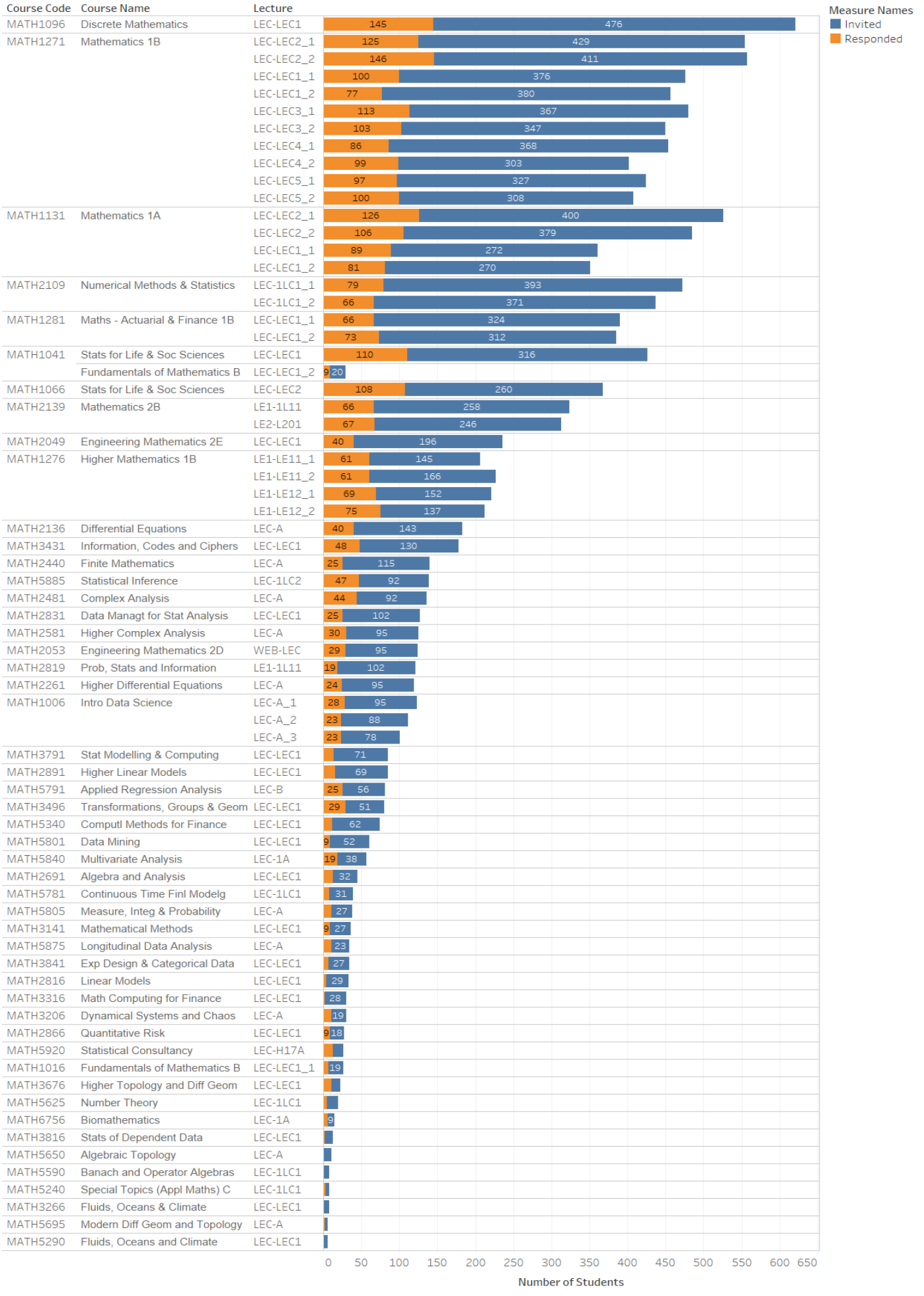


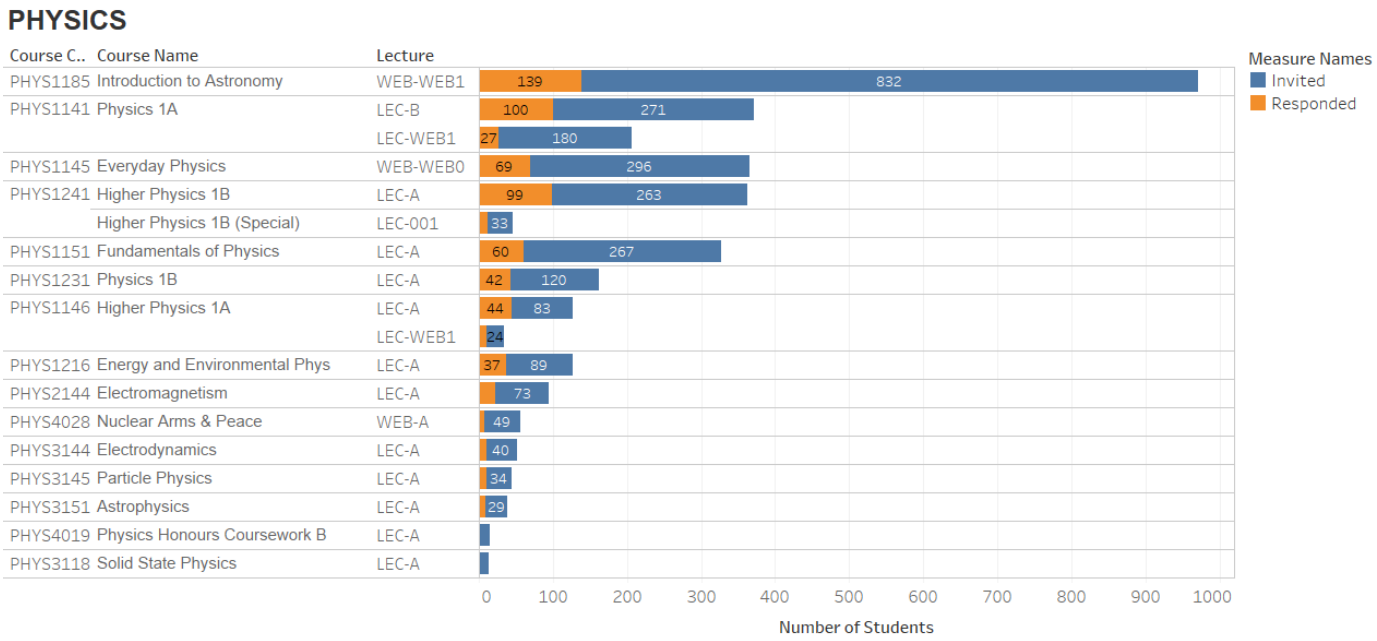
CHEMISTRY

Course Code	Course Name	Lecture	Invited	Responded
CHEM1016	Chemistry A	LEC-1LC1	411	119
CHEM1036	Chemistry B	LEC-1LC1	395	86
CHEM1046	Higher Chemistry B	LEC-1LC1	166	61
CHEM1799	Biological Chem for Optom	LEC-1LC1	123	33
CHEM2031	Organic Chem: Mech & Biomol	LEC-1LC1	84	28
CHEM2071	Inorganic Chem: The Elements	LEC-1A	73	15
CHEM1791	Engineering Chemistry 1B	LEC-1LC1	67	8
CHEM6066	Analytical Chem: Frontier Tech	LEC-1LC1	62	8
CHEM3866	Environmental Toxicology	LEC-1LC1	36	
CHEM2061	Analytical Chem:Essential Meth	LEC-1LC1	27	8
CHEM1066	Higher Chemistry Medicinal B	LEC-1LC1	20	8
CHEM3983	Special Project in Chemistry 2	LEC-LECT	20	
CHEM3081	Medicinal Organic Chemistry	LEC-1A	14	
CHEM2002	Nanotechnology 2	LEC-1LC1		
CHEM6682	Topics in Contemporary Chem B	LEC-1LC1		
CHEM4472	Chem Hons Coursework	LEC-LECT		
CHEM2986	Intro to Chem Research	LEC-1LC1	8	
CHEM4509	Chem Hons Project 24 UOC	LEC-LECT		



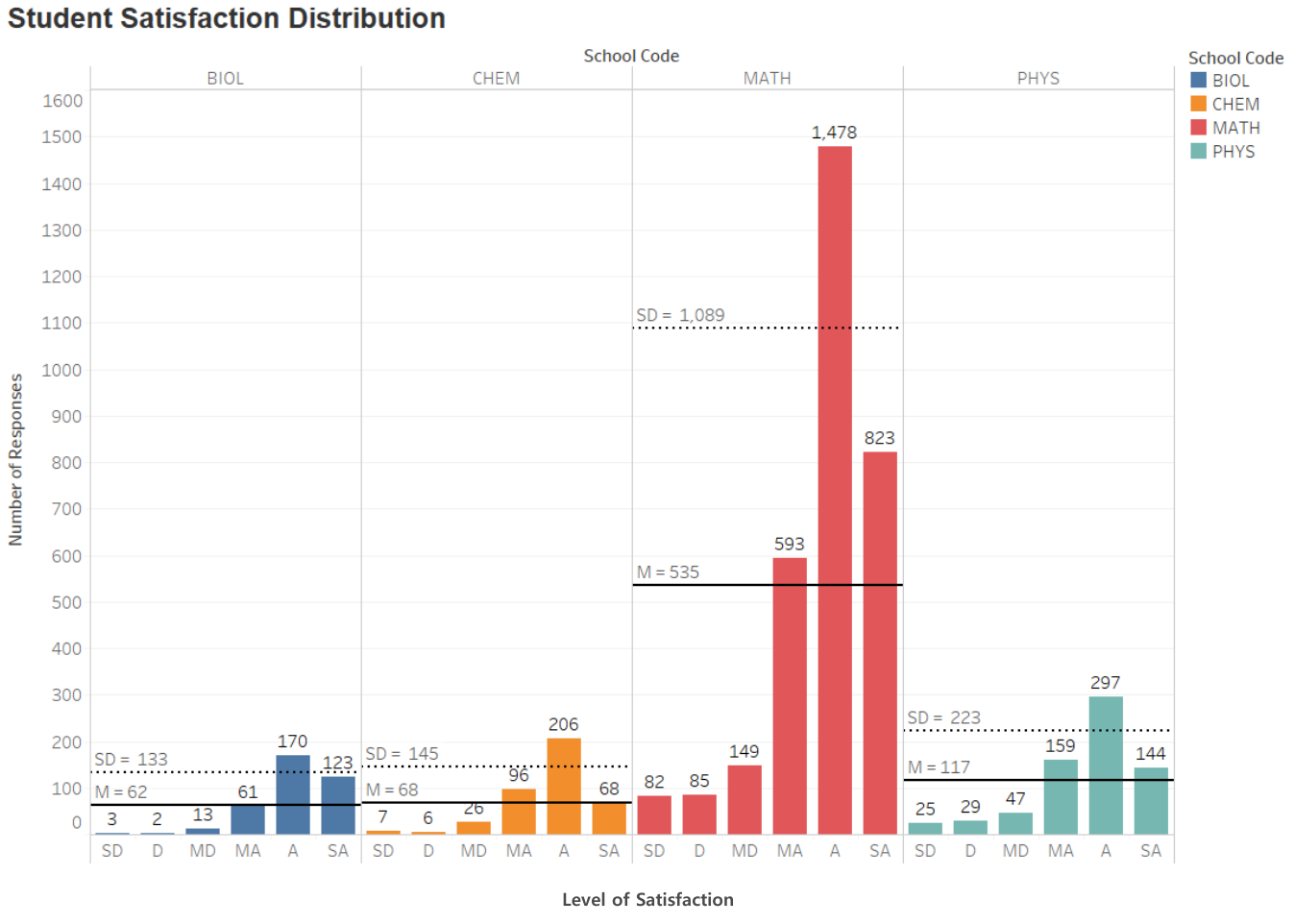
MATHEMATICS





The distribution of students' satisfaction responses is shown in Figure 1. below. The majority of the responses were concentrated between moderately agree (MA) and strongly agree (A) indicating that the distributions for each schools were negatively skewed. This result indicates that a large majority of the students were satisfied with the courses/lectures they were taking. The large margin between the mean (M) and standard deviation (SD) indicates high levels of variance (variability) across the satisfaction ratings suggesting that there are considerably more positive than negative satisfaction responses.

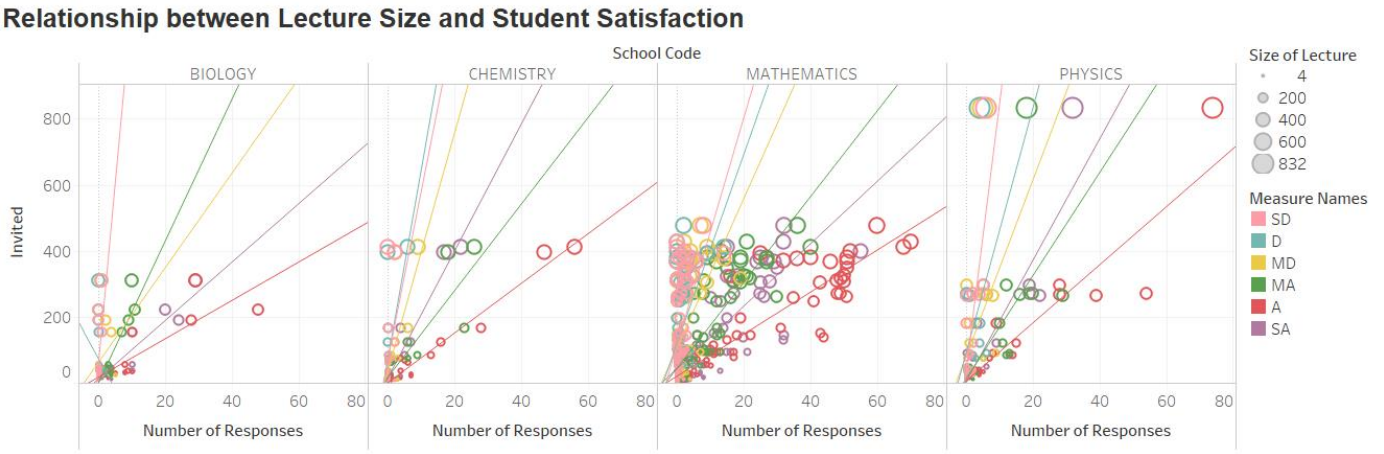
Figure 1. Distribution of the Student Satisfaction Responses



Note: SD = Strongly Disagree, D = Disagree, MD = Moderately Disagree, MA = Moderately Agree, A = Agree, SA = Strongly Agree.

The relationship between lecture sizes and student satisfaction ratings (i.e., SD, D, MD, etc.) is described in Figure 2. below. The difference in the regression lines indicate that some ratings are more predictive of lecture sizes than others. More specifically, higher satisfaction ratings show a more linear trend indicating that they are better at predicting the size of the lectures than lower satisfaction ratings. These results overall indicate that the relationship between lecture size and student satisfaction ratings are stronger for higher satisfaction ratings compared to lower satisfaction ratings across all schools (i.e., lower satisfaction ratings has weaker relationship with the size of the lectures compared to higher satisfaction ratings).

Figure 2. The Relationship between Lecture Size and Student Satisfaction per School



Note: SD = Strongly Disagree, D = Disagree, MD = Moderately Disagree, MA = Moderately Agree, A = Agree, SA = Strongly Agree.

The descriptive statistics for student satisfaction per school/course/lecture are shown in Table 2. below. Note that the order in which the descriptive statistics are provided are based on course code (not mean satisfaction score) as the reliability for mean satisfaction score vary across the courses due to sample size. Mean satisfaction scores can be considered reliable when the sample size (N>30) and the SD is low. Even when taking this rule of thumb into account, the mean scores indicates that students are generally satisfied with the course with very few courses reliably showing lower levels of satisfaction (M<4, Min = 1, Max = 6). Due to the lower levels of satisfaction scores, more investigation is recommended for the following courses/lectures: MATH2109_LEC-L1C1_1, PHYS1216_LEC-A.

Table 2. Descriptive Statistics per School/Course/Lecture

BIOLOGY

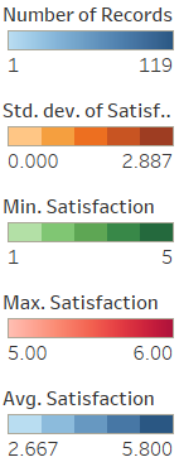
School Code	Course Code	Course Name	Lecture	Mean	SD	Min	Max	N
BIOL	BIOL1207	Applied Biomolecular Sciences	LEC-A	5.17	0.79	3.00	6.00	63
	BIOL2021	Current Trends in Biotech	LE1-W15A	4.89	0.33	4.00	5.00	9
	BIOL2219	Genetics	LEC-A	4.72	1.22	1.00	6.00	32
	BIOL2232	Molecular Cell Biology 1	LEC-A	5.11	0.62	4.00	6.00	79
	BIOL2241	Principles of Mol. Biol (Adv)	LEC-A	5.19	0.91	1.00	6.00	70
	BIOL2279	Genetics (Advanced Level)	LEC-A	5.00	1.07	4.00	6.00	8
	BIOL3021	Microbial Genetics	LEC-A	3.00	2.83	1.00	5.00	2
	BIOL3041	Biotechnology & Bioengineering	LEC-1LC1	4.75	0.71	4.00	6.00	8
	BIOL3061	Medical Biotechnology	LEC-A	3.73	0.79	3.00	5.00	11
	BIOL3076	Viruses and Disease	LEC-A	5.19	1.17	2.00	6.00	21
	BIOL3101	Prof Issues in Biotech	LEC-A	4.60	0.97	3.00	6.00	10
	BIOL3106	Environmental Biotech	LEC-A	5.25	0.50	5.00	6.00	4
	BIOL3266	Human Biochemistry	LEC-A	5.33	0.73	4.00	6.00	21
	BIOL3296	Molecular Cell Biology 2	LEC-A	5.00	0.00	5.00	5.00	5
	BIOL3316	Molecular Frontiers	LEC-A	5.24	0.70	4.00	6.00	21
	BIOL3326	Genes, Genomes & Evolution	LEC-1LC1	4.50	0.58	4.00	5.00	4
	BIOL3601	Biotech Bioeng (Adv)	LEC-A	6.00		6.00	6.00	1
		Microbial Genetics (Advanced)	LEC-A	6.00	0.00	6.00	6.00	3

Number of Records: 1 – 79
Std. dev. of Satisf..: 0.000 – 2.828
Min. Satisfaction: 1 – 6
Max. Satisfaction: 5.00 – 6.00
Avg. Satisfaction: 3.000 – 6.000

Note: The student satisfaction ratings ranges from 1 to 6. (1 = Strongly Disagree (SD), 6 = Strongly Agree (SA). SD = Standard deviation, Min = Minimum rating score, Max = Maximum rating score, N = Sample Size.

CHEMISTRY

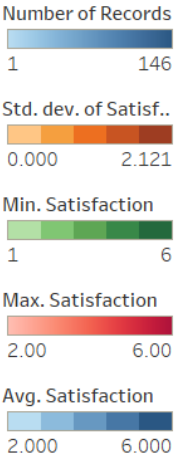
School Code	Course Code	Course Name	Lecture	Mean	SD	Min	Max	N
CHEM	CHEM1016	Chemistry A	LEC-1LC1	4.66	1.03	2.00	6.00	119
	CHEM1036	Chemistry B	LEC-1LC1	4.85	0.93	1.00	6.00	86
	CHEM1046	Higher Chemistry B	LEC-1LC1	4.49	0.77	3.00	6.00	61
	CHEM1066	Higher Chemistry Medicinal B	LEC-1LC1	5.13	0.35	5.00	6.00	8
	CHEM1791	Engineering Chemistry 1B	LEC-1LC1	4.88	0.64	4.00	6.00	8
	CHEM1799	Biological Chem for Optom	LEC-1LC1	4.67	1.24	1.00	6.00	33
	CHEM2002	Nanotechnology 2	LEC-1LC1	4.00	1.10	3.00	5.00	6
	CHEM2031	Organic Chem: Mech & Biomol	LEC-1LC1	4.79	0.79	3.00	6.00	28
	CHEM2061	Analytical Chem:Essential Meth	LEC-1LC1	5.13	0.35	5.00	6.00	8
	CHEM2071	Inorganic Chem: The Elements	LEC-1A	4.00	1.20	1.00	6.00	15
	CHEM2986	Intro to Chem Research	LEC-1LC1	2.67	2.89	1.00	6.00	3
	CHEM3081	Medicinal Organic Chemistry	LEC-1A	5.00	0.82	4.00	6.00	10
	CHEM3866	Environmental Toxicology	LEC-1LC1	5.00	0.00	5.00	5.00	4
	CHEM3983	Special Project in Chemistry 2	LEC-LECT	5.80	0.45	5.00	6.00	5
	CHEM4472	Chem Hons Coursework	LEC-LECT	5.00		5.00	5.00	1
	CHEM4509	Chem Hons Project 24 UOC	LEC-LECT	5.00		5.00	5.00	1
	CHEM6066	Analytical Chem: Frontier Tech	LEC-1LC1	5.00	0.53	4.00	6.00	8
	CHEM6682	Topics in Contemporary Chem B	LEC-1LC1	4.60	0.55	4.00	5.00	5



Note: The student satisfaction ratings ranges from 1 to 6. (1 = Strongly Disagree (SD), 6 = Strongly Agree (SA). SD = Standard deviation, Min = Minimum rating score, Max = Maximum rating score, N = Sample Size.

MATHEMATICS

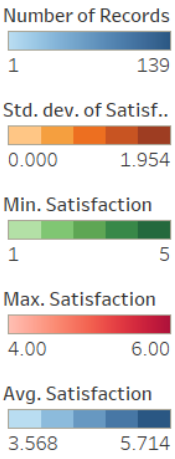
School Code	Course Code	Course Name	Lecture	Mean	SD	Min	Max	N
MATH	MATH1006	Intro Data Science	LEC-A_3	5.09	0.51	4.00	6.00	23
			LEC-A_2	4.26	1.48	1.00	6.00	23
			LEC-A_1	4.07	1.15	2.00	6.00	28
	MATH1016	Fundamentals of Mathematics B	LEC-LEC1_1	5.43	0.53	5.00	6.00	7
	MATH1041	Fundamentals of Mathematics B	LEC-LEC1_2	5.33	1.00	3.00	6.00	9
		Stats for Life & Soc Sciences	LEC-LEC1	4.56	1.02	2.00	6.00	110
	MATH1066	Stats for Life & Soc Sciences	LEC-LEC2	4.94	0.78	2.00	6.00	108
	MATH1096	Discrete Mathematics	LEC-LEC1	4.61	1.24	1.00	6.00	145
	MATH1131	Mathematics 1A	LEC-LEC1_2	4.85	1.01	1.00	6.00	81
			LEC-LEC2_1	5.21	0.94	1.00	6.00	126
			LEC-LEC2_2	4.83	1.09	1.00	6.00	106
			LEC-LEC1_1	4.92	1.12	1.00	6.00	89
	MATH1271	Mathematics 1B	LEC-LEC1_2	5.10	0.87	1.00	6.00	77
			LEC-LEC2_1	5.06	0.70	3.00	6.00	125
			LEC-LEC4_1	5.05	0.78	3.00	6.00	86
			LEC-LEC3_2	4.94	1.05	1.00	6.00	103
			LEC-LEC5_2	4.93	1.06	1.00	6.00	100
			LEC-LEC3_1	4.81	1.15	1.00	6.00	113
			LEC-LEC4_2	4.77	1.09	1.00	6.00	99
			LEC-LEC5_1	4.73	1.03	1.00	6.00	97
			LEC-LEC2_2	4.42	1.07	2.00	6.00	146
			LEC-LEC1_1	4.31	1.26	1.00	6.00	100
	MATH1276	Higher Mathematics 1B	LE1-LE11_1	5.39	0.74	3.00	6.00	61
			LE1-LE12_2	5.01	0.97	1.00	6.00	75
			LE1-LE12_1	4.87	0.84	1.00	6.00	69
			LE1-LE11_2	4.84	1.04	1.00	6.00	61
	MATH1281	Maths - Actuarial & Finance 1B	LEC-LEC1_2	5.12	0.58	4.00	6.00	73
			LEC-LEC1_1	4.26	1.47	1.00	6.00	66
	MATH2049	Engineering Mathematics 2E	LEC-LEC1	5.15	0.95	1.00	6.00	40
	MATH2053	Engineering Mathematics 2D	WEB-LEC	5.55	0.51	5.00	6.00	29
	MATH2109	Numerical Methods & Statistics	LEC-1LC1_2	4.29	1.16	1.00	6.00	66
			LEC-1LC1_1	3.65	1.69	1.00	6.00	79
	MATH2136	Differential Equations	LEC-A	4.48	1.28	1.00	6.00	40
	MATH2139	Mathematics 2B	LE1-1L11	4.73	0.89	2.00	6.00	66
			LE2-L201	4.97	0.72	2.00	6.00	67
	MATH2261	Higher Differential Equations	LEC-A	4.25	1.42	1.00	6.00	24
	MATH2440	Finite Mathematics	LEC-A	4.84	0.94	2.00	6.00	25
	MATH2481	Complex Analysis	LEC-A	4.45	1.30	1.00	6.00	44
	MATH2581	Higher Complex Analysis	LEC-A	5.37	0.76	3.00	6.00	30
	MATH2691	Algebra and Analysis	LEC-LEC1	5.00	1.22	3.00	6.00	13
	MATH2816	Linear Models	LEC-LEC1	5.00	0.00	5.00	5.00	4
	MATH2819	Prob, Stats and Information	LE1-1L11	4.53	0.96	3.00	6.00	19
	MATH2831	Data Managt for Stat Analysis	LEC-LEC1	4.52	1.36	1.00	6.00	25
	MATH2866	Quantitative Risk	LEC-LEC1	4.89	0.78	4.00	6.00	9
	MATH2891	Higher Linear Models	LEC-LEC1	5.19	0.66	4.00	6.00	16
	MATH3141	Mathematical Methods	LEC-LEC1	4.22	0.83	3.00	5.00	9
	MATH3206	Dynamical Systems and Chaos	LEC-A	5.73	0.47	5.00	6.00	11
	MATH3266	Fluids, Oceans & Climate	LEC-LEC1	6.00		6.00	6.00	1
	MATH3316	Math Computing for Finance	LEC-LEC1	3.50	2.12	2.00	5.00	2
	MATH3431	Information, Codes and Ciphers	LEC-LEC1	5.65	0.53	4.00	6.00	48
	MATH3496	Transformations, Groups & Geom	LEC-LEC1	4.62	1.32	1.00	6.00	29
	MATH3676	Higher Topology and Diff Geom	LEC-LEC1	3.45	1.63	1.00	6.00	11
	MATH3791	Stat Modelling & Computing	LEC-LEC1	4.57	1.02	2.00	6.00	14
	MATH3816	Stats of Dependent Data	LEC-LEC1	2.00	0.00	2.00	2.00	2
	MATH3841	Exp Design & Categorical Data	LEC-LEC1	4.00	1.41	1.00	5.00	7
	MATH5240	Special Topics (Appl Maths) C	LEC-1LC1	6.00	0.00	6.00	6.00	3
	MATH5290	Fluids, Oceans and Climate	LEC-LEC1	6.00		6.00	6.00	1
	MATH5340	Computl Methods for Finance	LEC-LEC1	4.58	1.38	1.00	6.00	12
	MATH5590	Banach and Operator Algebras	LEC-1LC1	4.00		4.00	4.00	1
	MATH5625	Number Theory	LEC-1LC1	5.20	0.45	5.00	6.00	5
	MATH5650	Algebraic Topology	LEC-A	6.00		6.00	6.00	1
	MATH5695	Modern Diff Geom and Topology	LEC-A	5.00	0.00	5.00	5.00	2
	MATH5781	Continuous Time Finl Modelg	LEC-1LC1	4.00	0.93	3.00	5.00	8
	MATH5791	Applied Regression Analysis	LEC-B	4.52	1.53	2.00	6.00	25
	MATH5801	Data Mining	LEC-LEC1	4.44	0.73	3.00	5.00	9
	MATH5805	Measure, Integ & Probability	LEC-A	5.64	0.50	5.00	6.00	11
	MATH5840	Multivariate Analysis	LEC-1A	5.58	0.77	3.00	6.00	19
	MATH5875	Longitudinal Data Analysis	LEC-A	5.27	0.65	4.00	6.00	11
	MATH5885	Statistical Inference	LEC-1LC2	4.94	1.24	2.00	6.00	47
	MATH5920	Statistical Consultancy	LEC-H17A	5.54	0.66	4.00	6.00	13
	MATH6756	Biomathematics	LEC-1A	5.50	0.84	4.00	6.00	6



Note: The student satisfaction ratings ranges from 1 to 6. (1 = Strongly Disagree (SD), 6 = Strongly Agree (SA). SD = Standard deviation, Min = Minimum rating score, Max = Maximum rating score, N = Sample Size.

PHYSICS

School Code	Course Code	Course Name	Lecture	Mean	SD	Min	Max	N
PHYS	PHYS1141	Physics 1A	LEC-WEB1	4.22	1.19	2.00	6.00	27
			LEC-B	4.81	0.94	1.00	6.00	100
	PHYS1145	Everyday Physics	WEB-WEB0	4.59	1.46	1.00	6.00	69
	PHYS1146	Higher Physics 1A	LEC-A	4.70	1.21	1.00	6.00	44
			LEC-WEB1	3.90	1.73	1.00	6.00	10
	PHYS1151	Fundamentals of Physics	LEC-A	4.37	1.21	1.00	6.00	60
	PHYS1185	Introduction to Astronomy	WEB-WEB1	4.77	1.19	1.00	6.00	139
	PHYS1216	Energy and Environmental Phys	LEC-A	3.57	1.09	1.00	5.00	37
	PHYS1231	Physics 1B	LEC-A	4.43	1.38	1.00	6.00	42
	PHYS1241	Higher Physics 1B	LEC-A	4.74	0.93	2.00	6.00	99
		Higher Physics 1B (Special)	LEC-001	5.08	0.79	4.00	6.00	12
	PHYS2144	Electromagnetism	LEC-A	4.00	1.23	2.00	6.00	22
	PHYS3118	Solid State Physics	LEC-A	4.00	0.00	4.00	4.00	2
	PHYS3144	Electrodynamics	LEC-A	4.27	1.95	1.00	6.00	11
	PHYS3145	Particle Physics	LEC-A	4.60	1.07	3.00	6.00	10
	PHYS3151	Astrophysics	LEC-A	4.89	0.78	4.00	6.00	9
	PHYS4019	Physics Honours Coursework B	LEC-A	5.00		5.00	5.00	1
	PHYS4028	Nuclear Arms & Peace	WEB-A	5.71	0.76	4.00	6.00	7



Note: The student satisfaction ratings ranges from 1 to 6. (1 = Strongly Disagree (SD), 6 = Strongly Agree (SA). SD = Standard deviation, Min = Minimum rating score, Max = Maximum rating score, N = Sample Size.

Conclusion: The results from the descriptive statistics and the distribution of the student satisfaction responses generally show that students are satisfied with the lectures/courses they are taking with an exception to the few courses highlighted above. There also seems to be a trend where larger size of lectures is more strongly associated with higher satisfaction ratings across all schools. To get a better understanding of student satisfaction ratings in the faculty of science, it is recommended that comparisons are made across other faculties in the future.

Note: Analysis regarding student feedback has been delayed due to quality of the data. Once the quality of the data has been assured, results from the student feedback will be reported.