

COLLEGE OF SCIENCE PATHWAYS TO STUDY ABROAD

- Applied Mathematics BS – Option 1
- Applied Mathematics BS – Option 2
- Biochemistry BS
- Bioinformatics with Molecular Genetics Option BS
- Bioinformatics BS
- Biology BS
- Biotechnology & Molecular Bioscience
- Chemistry BS
- Computational Mathematics BS – Option 1
- Computational Mathematics BS – Option 2
- Environmental Science BS
- Imaging Science BS
- Physics BS – Option 1
- Physics BS – Option 2
- Physics BS – Option 3
- Applied Statistics & Actuarial Science BS – Option 1
- Applied Statistics & Actuarial Science BS – Option 2

APPLIED MATHEMATICS-BS Program
Study Abroad Pathway—Option 1
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

*These undergraduate program schedules are subject to change.
Please verify information with your academic advisor and/or School representative before planning your study abroad trip.*

Term: FALL 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-181 Project-Based Calculus I, P7-1	4	4				
MATH-199 Math and Statistics Seminar	1		1			
CSCI-101 Principles of Computing	3	3				
LAS P2	3	3				
LAS P1	3	3				
Term credit total:	14	13	1			
Term: FALL 2 – STUDY ABROAD		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-221 Multivariable and Vector Calculus	4	4			MATH-182	
MATH-231 Differential Equations	3		3		MATH-182	
LAS P3	3	3				
LAS Elective 1	3	3				
Open Elective 1	3					
Term credit total:	16	10	3			
Term: FALL 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-431 Real Variables I	3		3		MATH-200, -221	
Program Elective 1	3		3			
Program Elective 2	3		3			
MATH-252 Probability and Statistics II	3		3		MATH-251	
LAS Immersion 1	3	3				
MATH-399 Mathematical Sciences Job Search Seminar	0		0			
Term credit total:	15	3	12			
Term: SPRING 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-182 Project-Based Calculus II P7-2	4	4			MATH-181	
CSCI-141 Computer Science I	4	4				
Science I P5*	3	3				
First-Year Writing Seminar WI	3	3				
Wellness Activity 1	0					
Term credit total:	14	14	0			
Term: SPRING 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-200 Discrete Mathematics with Introduction to Proof	3		3		MATH-182	
MATH-241 Linear Algebra	3		3		MATH-221	
MATH-251 Probability and Statistics I	3		3		MATH-182	
Science II P6	3	3			Science I	
LAS P4	3	3				
Wellness Activity 2	0					
Term credit total:	15	6	9			
Term: SPRING 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Program Elective 3	3		3			
Program Elective 4	3		3			
Program Elective 5	3		3			
Program Elective 6	3		3			
LAS Immersion 2	3	3				
Term credit total:	15	3	12			

Term: FALL 4		Check course classification (s)				Term: SPRING 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-421 Mathematical Modeling (WI)	3		3		MATH-221, -231, -241, -251	LAS Elective 3	3	3			
LAS Immersion 3	3	3				MATH-500 Senior Capstone in Mathematics**	3		3		MATH-411, -421, & (-431 or -441)
LAS Elective 2	3	3				Program Elective 7	3		3		
MATH-411 Numerical Analysis	3		3		MATH-231, -241	Open Elective 2	3				
MATH-441 Abstract Algebra	3		3		MATH-200, -241	Open Elective 3	3				
						LAS Elective 4	3	3			
Term credit total:	15	6	9			Term credit total:	18	6	6		
Program Totals:	Credits: 122		Liberal Arts & Sciences: 61			Major: 52			Elective & Other: 9		

Cr: credits LAS: liberal arts & sciences Maj: major requirement New: new course Prerequisite(s): list prerequisite(s) for the noted courses

Additional Notes:

1. Students are required to earn passing marks on both a *first-year paper* (typically written in MATH-199) and a *third-year paper* (typically written in MATH-421). These papers are reviewed and assessed by the SMS Writing Committee.
2. Students are required to complete an *experiential learning* component of the program, as approved by the School of Mathematical Sciences.

Footnotes:

* Students will satisfy the science requirements by taking either a 3-credit or 4-credit lab science course. If a science course consists of separate lecture and laboratory sections, the student **MUST** take both the lecture and lab portions to satisfy the requirement. The lecture alone will not fulfill the requirement.

** Students who have not otherwise fulfilled their experiential learning requirement must take MATH-500 Senior Capstone in Mathematics. Students who have completed the experiential learning requirement in some other way (as approved by the RIT School of Mathematical Sciences) may use this cell in the program mask as a program elective.

APPLIED MATHEMATICS-BS Program
Study Abroad Pathway—Option 2
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

*These undergraduate program schedules are subject to change.
Please verify information with your academic advisor and/or School representative before planning your study abroad trip.*

Term: FALL 1		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-181 Project-Based Calculus I, P7-1	4	4			
MATH-199 Math and Statistics Seminar	1		1		
CSCI-101 Principles of Computing	3	3			
LAS P2	3	3			
LAS P1	3	3			
Term credit total:	14	13	1		
Term: FALL 2		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-221 Multivariable and Vector Calculus	4	4			MATH-182
MATH-231 Differential Equations	3		3		MATH-182
MATH-251 Probability and Statistics I	3		3		MATH-182
LAS Elective 1	3	3			
Science II P6	3	3			Science I
Term credit total:	16	10	6		
Term: FALL 3 – STUDY ABROAD		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Program Elective 1	3		3		
Program Elective 2	3		3		
Open Elective 1	3				
LAS Immersion 1	3	3			
LAS Elective 2	3	3			
Term credit total:	15	6	6		
Term: SPRING 1		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-182 Project-Based Calculus II P7-2	4	4			MATH-181
CSCI-141 Computer Science I	4	4			
Science I P5*	3	3			
First-Year Writing Seminar WI	3	3			
Wellness Activity 1	0				
Term credit total:	14	14	0		
Term: SPRING 2		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-200 Discrete Mathematics with Introduction to Proof	3		3		MATH-182
MATH-241 Linear Algebra	3		3		MATH-221
MATH-252 Probability and Statistics II	3		3		MATH-251
LAS P3	3	3			
LAS P4	3	3			
Wellness Activity 2	0				
Term credit total:	15	6	9		
Term: SPRING 3		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-431 Real Variables I	3		3		MATH-200, -221
Program Elective 4	3		3		
Program Elective 5	3		3		
Program Elective 6	3		3		
LAS Immersion 2	3	3			
MATH-399 Mathematical Sciences Job Search Seminar	0		0		
Term credit total:	15	3	12		

Term: FALL 4		Check course classification (s)				Term: SPRING 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-421 Mathematical Modeling (WI)	3		3		MATH-221, -231, -241, -251	LAS Elective 3	3	3			
LAS Immersion 3	3	3				MATH-500 Senior Capstone in Mathematics**	3		3		MATH-411, -421, & (-431 or -441)
Program Elective 3	3		3			Program Elective 7	3		3		
MATH-411 Numerical Analysis	3		3		MATH-231, -241	Open Elective 2	3				
MATH-441 Abstract Algebra	3		3		MATH-200, -241	Open Elective 3	3				
						LAS Elective 4	3	3			
Term credit total:	15	3	12			Term credit total:	18	6	6		
Program Totals:	Credits: 122		Liberal Arts & Sciences: 61			Major: 52			Elective & Other: 9		

Cr: credits LAS: liberal arts & sciences Maj: major requirement New: new course Prerequisite(s): list prerequisite(s) for the noted courses

Additional Notes:

1. Students are required to earn passing marks on both a *first-year paper* (typically written in MATH-199) and a *third-year paper* (typically written in MATH-421). These papers are reviewed and assessed by the SMS Writing Committee.
2. Students are required to complete an *experiential learning* component of the program, as approved by the School of Mathematical Sciences.

Footnotes:

* Students will satisfy the science requirements by taking either a 3-credit or 4-credit lab science course. If a science course consists of separate lecture and laboratory sections, the student **MUST** take both the lecture and lab portions to satisfy the requirement. The lecture alone will not fulfill the requirement.

** Students who have not otherwise fulfilled their experiential learning requirement must take MATH-500 Senior Capstone in Mathematics. Students who have completed the experiential learning requirement in some other way (as approved by the RIT School of Mathematical Sciences) may use this cell in the program mask as a program elective.

Biochemistry-BS Program

Study Abroad Pathway

(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHEM-130 Chemical Connections	1		1		Matriculated Chemistry or Biochemistry Majors	
CHEM-151 General Chemistry	3	3			Score of 85% or higher on School of Chemistry and Materials Science assessment	
CHEM-155 Chemistry Workshop	2		2		CHEM-151 (co-req)	
MATH-181 Project-based Calculus I LAS-7a	4	4			none	
LAS Elective	3	3			none	
BIOL-121 Introductory Biology I	4	4			none	
Term credit total:	17	14	3			
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMO-332 Comp. Organic Chem. II	3		3		CHMO-331	
CHMO-336 Comp. Organic Chem Lab II	2		2		CHMO-335; CHMO-332 (co-req)	
CHMA-161 Quantitative Analysis	3		3		CHEM-151 or CHMG-141	
CHMA-165 Analytical Methods Lab	1		1		CHEM-130 or CHMG-145	
MATH-219 Multivariable Calculus or MATH 251 Probability and Statistics	3	3			MATH-182	
LAS Perspectives 1	3	3			none	
Term credit total:	15	6	9			
Term: Fall 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Advanced Biochemistry Elective (A)	3		3		CHMB-402	
CHMB-405 Biochemistry Lab (Writing Intensive)	3		3		CHMB-402	
CHMA-261 Instrumental Analysis	3		3		CHMA-161 or CHMG-142	
CHMA-265 Instrumental Analysis Lab	1		1		CHMA 261 (co-req)	
PHYS-212 University Physics II LAS-6	4	4			PHYS-211 & MATH-182	
LAS Perspectives 3	3	3				
Term credit total:	17	7	10			
Term: Spring 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMO-331 Comp. Organic Chem. I	3		3		CHEM-151	
CHMO-335 Comp. Organic Chem. Lab I	1		1		CHMO-331 (co-req)	
MATH-182 Project-based Calculus II LAS -7b	4	4			MATH-181	
Writing Seminar	3	3			none	
BIOL-122 Introductory Biology II	4	4			BIOL-121	
Term credit total:	15	11	4			
Term: Spring 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMB-402 Biochemistry I	3		3		CHMO-231 or equiv.	
PHYS-211 University Physics I LAS-5	4	4			MATH-181	
LAS Perspectives 2	3	3			none	
BIOL-201 Cellular and Molecular Biology	4		4		BIOL-102 and BIOL-104	
LAS Immersion 1	3	3				
Term credit total:	17	10	7			
Term: Spring 3—STUDY ABROAD		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Open Elective or Advanced Biology Elective	3					
Open Elective	4					
Open Elective	3					
LAS Immersion 2	3	3				
LAS Perspectives 4	3	3				
Term credit total:	16	6				

Term: Fall 4		Check course classification (s)				Term: Spring 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
CHMI-351 Descriptive Inorganic Chemistry	3		3		CHMO-231 or equiv.	Advanced Chemistry Lab Elective or Biochemistry Research (B)	2		2		
CHMP-441 Physical Chemistry I	3		3		CHMA-221 & PHYS-211	Advanced Biochemistry Elective (A)	3		3		
Advanced Biology Elective (C)	3		3			LAS Elective	3	3			
LAS Elective	3	3				Advanced Biology Elective (C)	3		3		
LAS Immersion 3	3	3				Open Elective or Advanced Biology Elective (depends on STUDY ABROAD)	3				
Term credit total:	15	6	9			Term credit total:	14	3	8		

Program Totals:	Credits: 126	Liberal Arts & Sciences: 63	Major: 50	Elective & Other: 13
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Cr: credits **LAS:** liberal arts & sciences **Maj:** major requirement **New:** new course **Prerequisite(s):** list prerequisite(s) for the noted courses
Yellow: identical course and yr Blue: identical course different term Red: different course

LAS Foundations	LAS Perspectives	LAS Immersion	LAS elective
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BIOINFORMATICS with Molecular Genetics Option—BS Program

Study Abroad Pathway—Option 1

(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-121 Introductory Biology I	4		4			
CHMG-141 G&A Chemistry I LAS-P5	3	3				
CHMG-145 G&A Chemistry I lab LAS-P5	1	1				
BIOL-130 Intro to Bioinformatics	3		3			
LAS Elective	3	3				
Term credit total:		14	7	7		
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-201 Cell & Molecular Biology	4		4		BIOL-122	
CSCI-141 Computer Science I	4	4				
CHMO-231 Organic Chemistry I	3	3			CHMG-142	
CHMG-235 Organic Chemistry I Lab	1	1				
LAS-P1	3	3				
Term credit total:		15	11	4		
Term: Fall 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
ISTE-230 Intro to DB and Data Model	3		3		CSCI-142	
LAS-P3	3	3				
BIOL-330 Bioinformatics	3		3		BIOL-201	
CSCI-243 The Mech of Programming	3		3		CSCI-142	
BIOL-470 Stat Analy for Bioinfo	3	3			MATH-173 or MATH-182 and MATH-190 or MATH-200 and STAT-145	
Term credit total:		15	6	9		
Term: Summer 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-499 Co-op	0		0		N/A	
Term credit total:		0	0			

Term: Spring 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-122 Introductory Biology II	4		4		BIOL-121	
CHMG-142 G&A Chemistry II LAS-P6	3	3			CHMG-141	
CHMG-146 G&A Chemistry II lab LAS-P6	1	1			CHMG-145	
MATH-161 Applied Calculus LAS-P7a	4	4				
First Year Writing LAS-Foundation	3	3				
Term credit total:		15	11	4		
Term: Spring 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-321 Genetics	3		3		BIOL-201	
CSCI-142 Computer Science II	4	4			CSCI-141	
CHMO-232 Organic Chemistry II	3	3			CHMO-231	
CHMO-236 Organic Chemistry II Lab	1	1			CHMO-235	
LAS-P2	3	3				
STAT-145 Intro to Statistics I LAS-P7b	3	3				
Term credit total:		17	14	3		
Term: Spring 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-450 Genetic Engineering (WI)	5		5		BIOL-201	
BIOL-230 Bioinformatics Languages	3		3		CSCI-142	
LAS-I1	3	3				
Mol Biosc & Biotech Elective	4		4			
LAS-I2	3	3				
Term credit total:		18	6	12		

Term: Fall 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-425 Ethics in Bioinformatics	3		3		BIOL-201	
CHMB-402 Biochemistry I	3		3		CHMO-231	
BIOL-340 Genomics	3		3		BIOL-201	
Immersion LAS-I3	3	3				
BIOL 3/4XX Mol Biosc & Biotech Elective	4		4		BIOL-201	
Term credit total:	16	3	13			
Program Totals:	Credits: 125		Liberal Arts & Sciences: 61			

Term: Spring 4—DANISH INTERNATIONAL STUDY PROGRAM		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Epigenetics & the Environment [Mol Biosc & Biotech Elective]	3		3		BIOL-201	
Open Elective	3				BIOL-201	
Danish Language and Culture [LAS-P4]	3	3				
Open Elective	3					
Open Elective	3					
Term credit total:	16	3	3			
	Major: 55		Elective & Other: 9			

BIOINFORMATICS-BS Program
Study Abroad Pathway—Option 1
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-121, Intro Bio I	4		4			
BIOL-130, Intro to Bioinformatics	3		3			
CSCI-141, Computer Science I	4	4				
LAS-P1	3	3				
Term credit total:	14	7	7			
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-201, Cell and Molecular Biology	4		4		BIOL-122	
LAS-P2	3	3				
MATH-190, Discrete Math (LAS-P7b)	3	3				
CHMG-141, G&A Chem I (LAS-P5)	3	3				
CHMG-145, G&A Chem I Lab (LAS-P5)	1	1				
CSCI-243, The Mech of Programming	3		3		CSCI-142	
Term credit total:	17	10	7			
Term: Fall 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CSCI-251, Concepts of Parallel and Dist Sys	3		3	3	CSCI-243	
Immersion LAS-I2	3	3				
BIOL-330, Bioinformatics	3		3		BIOL-201	
CHMO-231, Organic Chem I	3	3			CHMG-142,146	
CHMO-235, Organic Chem I Lab	1	1				
ISTE-230, Intro to DB and Data Model	3		3		CSCI-142	
Term credit total:	16	7	9			
Term: Summer 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-499, Co-op	0		0		N/A	
Term credit total:	0		0			
Term: Spring 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-122, Intro Bio II	4		4		BIOL-121	
CSCI-142, Computer Science II	4	4			CSCI-141	
Foundation Writing LAS-Foundation	3	3				
MATH-161, Applied Calculus (LAS-P7a)	4	4				
Term credit total:	15	11	4			
Term: Spring 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-321, Genetics	3		3		BIOL-201	
LAS-P3	3	3				
STAT-145, Intro to Statistics I	3	3				
CHMG-142, G&A Chem II (LAS-P6)	3	3			CHMG-141	
CHMG-146, G&A Chem II Lab (LAS-P6)	1	1			CHMG-145	
Immersion LAS-I1	3	3				
Term credit total:	16	13	3			
Term: Spring 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL-450, Genetic Engineering (WI)	5		5		BIOL-201	
BIOL-230, Bioinfo Languages	3		3		CSCI-142	
BIOL-494, Molec Model and Proteomics	3		3		BIOL-330	
Immersion LAS-I3	3	3				
Term credit total:	14	3	8			

Term: Fall 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
BIOL-425, Ethics in Bioinformatics	3		3		BIOL-201
CHMB-402, Biochemistry I	3		3		CHMO-231
BIOL-340, Genomics	3		3		BIOL-201
BIOL-470, Stat Analysis for Bioinformatics	3	3			MATH-173 or MATH-182 and MATH-190 or MATH-200 and STAT-145
BIOL-430, Bioinformatics Algorithms	3		3		BIOL-330
Term credit total:	15	3	12		

Term: Spring 4—STUDY ABROAD		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Open elective	3				
Open elective	3				
Open elective	3				
LAS-P4	4	4			
LAS Elective	3	3			
Term credit total:	16	7	0		

Program Totals:	Credits: 123	Liberal Arts & Sciences: 60	Major: 53	Elective & Other: 9
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BIOLOGY-BS Program
Study Abroad Pathway—Option 1
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

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Please verify information with your academic advisor and/or School representative before planning your study abroad trip.*

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 121 Intro Biology I + lab	4	X				
CHMG 141 G&A Chemistry I lecture (LAS/P5)	3	X				
CHMG 145 G&A Chemistry I lab	1	X				
LAS Elective	3	X				
LAS Perspectives 1	3	X				
Term credit total:	14	14				
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 240 General Ecology (WI) <i>OR</i> BIOL 265 Evolutionary Biology (WI)	4		X		BIOL 121/122	
CHMO 231 Organic Chemistry I lecture	3	X			CHMG 142	
CHMO 235 Organic Chemistry I lab	1	X			CHMG 146	
STAT 145 Intro to Statistics <i>OR</i> STAT 155 Intro to Biostatistics (LAS/P7b)	3	X				
LAS Perspectives 2	3	X				
Term credit total:	14	10	4			
Term: Fall 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
PHYS 111 College Physics I lec & lab	4	X				
Program Elective	3		X			
Program Elective	3		X			
Program Elective	3		X			
LAS Perspectives 4	3	X				
Term credit total:	16	7	9			

Term: Spring 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 122 Intro Biology II + lab	4	X			BIOL 121	
CHMG 142 G&A Chem II lec (LAS/P6)	3	X			CHMG 141	
CHMG 146 G&A Chemistry II lab	1	X			CHMG 145	
First Year Writing (LAS/Foundation)	3	X				
MATH 161 Applied Calculus (LAS/P7a)	4	X			Math Placement Exam	
Term credit total:	15	15				
Term: Spring 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 201 Cell & Molecular Bio	4		X		BIOL 121/122	
BIOL 321 Genetics <i>OR</i> BIOL 365 Population Genetics	3		X		For 321: BIOL 121/122 For 365: BIOL 265	
CHMO 232 Organic Chemistry II lecture	3	X			CHMO 231	
CHMO 236 Organic Chemistry II lab	1	X			CHMO 235	
LAS Perspectives 3	3	X				
Open Elective	3					
Term credit total:	17	7	7			
Term: Spring 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
PHYS 112 College Physics II lec & lab	4	X			PHYS 111	
BIOL 322 Developmental Biology <i>OR</i> BIOL 313 Comp Animal Physiology	4		X		For 322: BIOL 201 For 313: BIOL 265 or BIOL 240	
Program Elective	3		X			
Program Elective	3		X			
LAS Immersion 1	3	X				
Term credit total:	17	7	10			

Term: Fall 4—STUDY ABROAD IN DENMARK		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Biological Conservation & Biodiversity + lab (Program Elective)	4		X			
Biology of Marine Mammals + lab (Program Elective)	4		X			
Complexity of Cancer (Program Elective)	3		X			
Danish Language & Culture (Open Elective)	3					
BIOL 500 Exp. Learn. Req. in Life Sci.	0		X			
Term credit total:	14		10			

Term: Spring 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Program Elective	3		X			
Program Elective	3		X			
Program Elective	3		X			
LAS Immersion 2	3	X				
LAS Immersion 3	3	X				
Term credit total:	15	6	9			

Program Totals:		Credits: 122	Liberal Arts & Sciences: 66	Major: 50	Elective & Other: 6
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BIOTECHNOLOGY & MOLECULAR BIOSCIENCE-BS Program

Study Abroad Pathway—Option 1

(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 121 Introduction to Biology	4	4				
CHMG 141 G & A Chemistry I (LAS-P5)	3	3				
CHMG 145 G & A Chemistry I lab	1	1				
LAS-P1	3	3				
LAS Elective	3	3				
Term credit total:	14	14				
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 201 Cell & Molecular Biology with lab	4		4		BIOL-122 or equivalent	
Mol Biosc & Biotech Elective	4		4			
CHMO 231 Organic Chemistry I	3	3			CHMG 142	
CHMO 235 Organic Chemistry I Lab	1	1			CHMG 146	
STAT 145 Intro Statistics or STAT 155 Biostatistics (LAS-P7b)	3	3				
Term credit total:	15	7	8			
Term: Fall 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMB 402 Biochemistry I	3		3		CHMO 231 or equivalent	
Mol Biosc & Biotech Elective (WI)	3		3			
BIOL 325 Bioinf Analysis Macromolecule	3		3		BIOL 201	
LAS-P3	3	3				
LAS-P4	3	3				
Term credit total:	15	6	9			
Term: Spring 1		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 122 Intro to Biology	4	4			BIOL 121	
CHMG 142 G&A Chemistry II (LAS-P6)	3	3			CHMG 141	
CHMG 146 G&A Chemistry I lab (LAS-P6)	1	1			CHMG 145	
MATH 161 Applied Calculus (LAS-P7a)	4	4				
Writing Seminar (LAS-Foundation)	3	3				
Term credit total:	15	15				
Term: Spring 2		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
BIOL 321 Genetics	3		3		BIOL 201	
BIOL 204 Microbiology	4		4		BIOL-201	
CHMO 232 Organic Chemistry II	3	3			CHMO 231	
CHMO 236 Organic Chemistry II Lab	1	1			CHMO 235	
LAS-P2	3	3				
Term credit total:	14	7	7			
Term: Spring 3—DANISH INTERNATIONAL STUDY		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Danish Language and Culture (Open Elective)	3					
Diabetes: Diagnoses & Diseases (Mol Biosc & Biotech Elective)	3		3			
Epigenetics & The Environment (Mol Biosc & Biotech Elective)	3		3			
Immunology (Mol Biosc & Biotech Elective)	3		3			
Medical Biotechnology (Mol Biosc & Biotech Elective)	3		3			
Term credit total:	15		12			

Term: Fall 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Mol Biosc & Biotech Elective	4		4		
Open Elective	3				
Mol Biosc & Biotech Elective	3		3		
LAS-I2	3	3			
LAS-I1	3	3			
Term credit total:	16	6	7		

Term: Spring 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Mol Biosc & Biotech Elective	4		4		
Mol Biosc & Biotech Elective	3		3		
Mol Biosc & Biotech Elective	4		4		
LAS-I3	3	3			
LAS-Elective	3	3			
BIOL 500 Exp. Learn. Req in Life Science	0		0		
Term credit total:	17	6	11		

Program Totals:	Credits: 121	Liberal Arts & Sciences: 61	Major: 54	Elective & Other: 6
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Cr: credits **LAS:** liberal arts & sciences **Maj:** major requirement **New:** new course **Prerequisite(s):** list prerequisite(s) for the noted courses

Chemistry-BS Program
Study Abroad Pathway
 (last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHEM-130 Chemical Connections	1		1		Matriculated Chemistry or Biochemistry Majors	
CHEM-151 General Chemistry	3	3			Score of 85% or higher on SCMS assessment	
CHEM-155 Chemistry Workshop	2		2		CHEM-151 (co-req)	
MATH-181 Project-based Calculus I LAS-7a	4	4			none	
LAS Elective	3	3			none	
LAS Perspectives I	3	3			none	
Term credit total:	16	13	3			
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMA-161 Quantitative Analysis	3		3		CHEM-151 or CHMG-141	
CHMA-165 Analytical Methods Lab	1		1		CHEM-130 or CHMG-145	
CHMO-332 Comp. Organic Chem. II	3		3		CHMO-331	
CHMO-336 Comp. Organic Chem. Lab II	2		2		CHMO-335; CHMO-332 (co-req)	
CHMI-351 Descriptive Inorganic Chemistry	3		3		CHMO-231 or equiv.	
MATH-219 Multivariable Calculus	3	3			MATH-182	
Term credit total:	15	3	12			
Term: Fall 3—STUDY ABROAD		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
LAS Immersion 3	3	3				
LAS Elective or Advanced Chemistry Elective 1	3	3				
LAS Elective	3	3				
LAS Perspectives 4	3	3				
LAS Elective	3	3				
Term credit total:	15	15	0			
Term: Spring 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMO-331 Comp. Organic Chem. I	3		3		CHEM-151	
CHMO-335 Comp. Organic Chem. Lab I	1		1		CHMO-331 (co-req)	
MATH-182 Project-based Calculus II LAS-7b	4	4			MATH-181	
Writing Seminar	3	3			none	
LAS Perspective 2	3	3				
Term credit total:	14	10	4			
Term: Spring 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMB-402 Biochemistry I	3		3		CHMO-231 or equiv.	
PHYS-211 University Physics I LAS-5	4	4			MATH-181	
LAS Perspectives 3	3	3			none	
LAS Immersion 1	3	3				
MATH-233 Linear Systems and Differential Equations	4		4			
Term credit total:	17	10	7			
Term: Spring 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
CHMP-441 Physical Chemistry I	3		3		CHMA-221, MATH-219 and one year of College Physics or equivalent	
CHMA-261 Instrumental Analysis	3		3		CHMA-161 or CHMG-142	
CHMA-265 Instrumental Analysis Lab	1		1		CHMA 261 (co-req)	
PHYS-212 University Physics II LAS-6	4	4			PHYS-211 & MATH-182	
Open Elective	3					
Open Elective	3					
Term credit total:	17	4	7			

Term: Fall 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Advanced Chemistry Elective 1 or LAS Elective (depends on STUDY ABROAD)	3		3		
Advanced Chemistry Elective 2	3		3		
LAS Immersion 2	3	3			
LAS Elective	3	3			
Open Elective	3				
Term credit total:	15	6	6		

Term: Spring 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Advanced Chemistry Lab	2		2		CHMP-445
CHMI-464 Structural Inorganic Chemistry	3		3		CHMO-332 or equivalent
CHMP-442 Physical Chemistry II	3		3		CHMP-441 & MATH-233 or MATH231 & MATH241
CHMP-445 Experimental Physical Chemistry (Writing Intensive)	3		3		CHMP-441
Open Elective	3				
Term credit total:	14	3	11		

Program Totals:	Credits: 123	Liberal Arts & Sciences: 61	Major: 50	Elective & Other: 12
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Cr: credits LAS: liberal arts & sciences Maj: major requirement New: new course Prerequisite(s): list prerequisite(s) for the noted courses

LAS Foundations	LAS Perspectives	LAS Immersion	LAS elective
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COMPUTATIONAL MATHEMATICS—BS Program
Study Abroad Pathway – Option 1
 (last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: FALL 1		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-181 Project-Based Calculus I P7-1	4	4			
MATH-199 Math and Statistics Seminar	1		1		
LAS P1	3	3			
LAS P2	3	3			
CSCI-141 Computer Science I	4	4			
Term credit total:	15	14	1		
Term: FALL 2 – STUDY ABROAD		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-221 Multivariable and Vector Calculus	4	4			MATH-182
MATH-231 Differential Equations	3		3		MATH-182
LAS P3	3	3			
LAS Elective 1	3	3			
LAS Elective 2	3	3			
Term credit total:	16	13	3		
Term: FALL 3		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-431 Real Variables I	3		3		MATH-200, -221
SWEN-261 Software Engineering	3		3		CSCI-142
Program Elective 2	3		3		
CSCI-262 Introduction to Computer Science Theory	3		3		MATH-200 and CSCI-141
MATH-411 Numerical Analysis	3		3		MATH-231, -241
Wellness 2	0				
Term credit total:	15	0	15		
Term: SPRING 1		(Check course classification (s))			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-182 Project-Based Calculus II P7-2	4	4			MATH-181
CSCI-142 Computer Science II	4	4			CSCI-141
Science I P5*	3	3			
First-Year Writing WI	3	3			
Wellness 1	0				
Term credit total:	14	14			
Term: SPRING 2		(Check course classification (s))			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-241 Linear Algebra	3		3		MATH-221
MATH-251 Probability and Statistics I	3		3		MATH-182
CSCI-243 The Mechanics of Programming	3		3		CSCI-142
MATH-200 Discrete Mathematics with Introduction to Proof	3		3		MATH-182
Science II P6	3	3			Science I
Term credit total:	15	3	12		
Term: SPRING 3		(Check course classification (s))			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-441 Abstract Algebra I	3		3		MATH-200, -241
LAS P4	3	3			
Program Elective 3	3		3		
MATH-399 Mathematical Science Job Search Seminar	0		0		
LAS Immersion I	3	3			
Program Elective 1	3		3		
Term credit total:	15	6	9		

Term: FALL 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-421 Mathematical Modeling (WI)	3		3		MATH-221, -231, -241, -251	
MATH-412 Numerical Linear Algebra or MATH-351 Graph Theory	3		3		MATH-221, -231, -341 [or MATH 200]	
LAS Immersion 2	3	3				
Program Elective 4	2		2			
Open Elective 1	3					
Term credit total:	14	3	8			

Term: SPRING 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Program Elective 5	2		2			
MATH-500 Senior Capstone in Mathematics**	3		3		MATH-411, -421, & (-431 or -441)	
Open Elective 2	3					
LAS Immersion 3	3	3				
LAS Elective 3	3	3				
Open Elective 3	2					
Term credit total:	16	6	5			

Program Totals:	Credits: 120	Liberal Arts & Sciences: 61	Major: 51	Elective & Other: 8
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Cr: credits LAS: liberal arts & sciences Maj: major requirement New: new course Prerequisite(s): list prerequisite(s) for the noted courses

Additional Notes:

1. Students are required to earn passing marks on both a *first-year paper* (typically written in MATH-199) and a *third-year paper* (typically written in MATH-421). These papers are reviewed and assessed by the SMS Writing Committee.
2. Students are required to complete an *experiential learning* component of the program, as approved by the School of Mathematical Sciences.
3. Two of the five program electives must be courses with the MATH prefix. Two of the five program electives must be CSCI courses, and the remaining program elective can be either MATH or CSCI.

Footnotes:

* Students will satisfy the science requirements by taking either a 3-credit or 4-credit lab science course. If a science course consists of separate lecture and laboratory sections, the student **MUST** take both the lecture and lab portions to satisfy the requirement. The lecture alone will not fulfill the requirement.

** Students who have not otherwise fulfilled their experiential learning requirement must take MATH-500 Senior Capstone in Mathematics. Students who have completed the experiential learning requirement in some other way (as approved by the RIT School of Mathematical Sciences) may use this cell in the program mask as a program elective

COMPUTATIONAL MATHEMATICS—BS Program
Study Abroad Pathway – Option 2
 (last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: FALL 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-181 Project-Based Calculus I P7-1	4	4				
MATH-199 Math and Statistics Seminar	1		1			
LAS P1	3	3				
LAS P2	3	3				
CSCI-141 Computer Science I	4	4				
Term credit total:	15	14	1			
Term: FALL 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-221 Multivariable and Vector Calculus	4	4			MATH-182	
MATH-231 Differential Equations	3		3		MATH-182	
LAS P3	3	3				
LAS Elective 1	3	3				
Science II P6	3	3			Science I	
Term credit total:	16	13	3			
Term: FALL 3 – STUDY ABROAD		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
LAS Immersion I	3	3				
Program Elective 1	3		3			
Program Elective 2	3		3			
LAS Elective 2	3	3				
Open Elective 1	3					
Term: SPRING 1		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-182 Project-Based Calculus II P7-2	4	4			MATH-181	
CSCI-142 Computer Science II	4	4			CSCI-141	
Science I P5*	3	3				
First-Year Writing WI	3	3				
Wellness 1	0					
Term credit total:	14	14				
Term: SPRING 2		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-241 Linear Algebra	3		3		MATH-221	
MATH-251 Probability and Statistics I	3		3		MATH-182	
CSCI-243 The Mechanics of Programming	3		3		CSCI-142	
MATH-200 Discrete Mathematics with Introduction to Proof	3		3		MATH-182	
Wellness 2	0					
SWEN-261 Software Engineering	3		3		CSCI-142	
Term credit total:	15	0	15			
Term: SPRING 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-441 Abstract Algebra I	3		3		MATH-200, -241	
LAS P4	3	3				
Program Elective 3	3		3			
MATH-399 Mathematical Science Job Search Seminar	0		0			
CSCI-262 Introduction to Computer Science Theory	3		3		MATH-200 and CSCI-141	

						MATH-412 Numerical Linear Algebra or MATH-351 Graph Theory	3		3		MATH-221, -231, - 341 [or MATH 200]
Term credit total:	15	6	6			Term credit total:	15	3	12		
Term: FALL 4						Term: SPRING 4					
Check course classification (s)						Check course classification (s)					
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
MATH-421 Mathematical Modeling (WI)	3		3		MATH-221, -231, - 241, -251	Program Elective 5	2		2		
LAS Immersion 2	3	3				MATH-500 Senior Capstone in Mathematics**	3		3		MATH-411, -421, & (-431 or -441)
Program Elective 4	2		2			Open Elective 2	3				
MATH-431 Real Variables I	3		3		MATH-200, -221	LAS Immersion 3	3	3			
MATH-411 Numerical Analysis	3		3		MATH-231, -241	LAS Elective 3	3	3			
						Open Elective 3	2				
Term credit total:	14	3	11			Term credit total:	16	6	5		
Program Totals:	Credits: 120			Liberal Arts & Sciences: 61			Major: 51			Elective & Other: 8	

Cr: credits LAS: liberal arts & sciences Maj: major requirement New: new course Prerequisite(s): list prerequisite(s) for the noted courses

Additional Notes:

1. Students are required to earn passing marks on both a *first-year paper* (typically written in MATH-199) and a *third-year paper* (typically written in MATH-421). These papers are reviewed and assessed by the SMS Writing Committee.
2. Students are required to complete an *experiential learning* component of the program, as approved by the School of Mathematical Sciences.
3. Two of the five program electives must be courses with the MATH prefix. Two of the five program electives must be CSCI courses, and the remaining program elective can be either MATH or CSCI.

Footnotes:

* Students will satisfy the science requirements by taking either a 3-credit or 4-credit lab science course. If a science course consists of separate lecture and laboratory sections, the student MUST take both the lecture and lab portions to satisfy the requirement. The lecture alone will not fulfill the requirement.

** Students who have not otherwise fulfilled their experiential learning requirement must take MATH-500 Senior Capstone in Mathematics. Students who have completed the experiential learning requirement in some other way (as approved by the RIT School of Mathematical Sciences) may use this cell in the program mask as a program elective

ENVIRONMENTAL SCIENCE-BS Program
Study Abroad Pathway—Option 1
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: FALL1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-ENVS-101-Concepts of Env. Science	3	3				
COS-ENVS-111-Soil Science	4	4		X		
COS-BIOL-121-Introduction to Biology I	4		4			
LAS Elective	3	3				
Term credit total:		14	10	4		
Term: FALL2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COLA-STSO-220-Environment and Society	3	3			COS-ENVS-101	
COS-ENVS-250-Applications of Geographic Information Systems	4		4		COS-ENVS-101	
COS-BIOL-240-General Ecology	4		4		COS-BIOL-122 or 102	
COS-CHMG-141-General and Analytical Chemistry I (P5)	3	3				
COS-CHMG-145- General and Analytical Chemistry I Lab (P5)	1	1				
Term credit total:		15	7	8		
Term: FALL3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COLA-STSO-422-Great Lakes	3		3		COLA-STSO-220	
COS-STAT-145-Introduction to Stats. I (P-7b)	3	3				
Environmental Science Concentration 1	3		3			
COS-CHMO-231-Organic Chemistry I	3	3			COS-CHMG-142	
COS-CHMO-235-Organic Chemistry I Lab	1	1			COS-CHMG-146	
LAS-P3	3	3				
Term credit total:		16	10	6		
Term: SPRING1		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-ENVS-201-Environmental Workshop	3		3		COS-ENVS-101	
COS-MATH-161-Applied Calculus (P-7a)	4	4				
COS-BIOL-122-Introduction to Biology II	4		4		COS-BIOL-121	
FY Writing (LAS-Foundation)	3	3				
LAS-P1	3	3				
Term credit total:		17	10	7		
Term: SPRING2		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-STAT-146-Introduction to Stats. II	4	4				
COS-ENVS-301-Environmental Science Field Skills	4		4		ENVS-201, BIOL-240, CHMG-141 and 145	
LAS-P2	3	3				
COS-CHMG-142- General and Analytical Chemistry II (P6)	3	3			COS-CHMG-141	
COS-CHMG-146- General and Analytical Chemistry I Lab (P6)	1	1			COS-CHMG-145	
Term credit total:		15	11	4		
Term: SPRING3—SCHOOL FOR FIELD STUDIES*		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
SFS-3700 Principles of Forest Management (COS-BIOL-475-Conservation Biology)	4		4			
SFS-4910 Directed Research (COS-ENVS-551/2- Environmental Science Capstone I & II)**	4		4			
SFS 3690 Rainforest Ecology (Environmental Science Concentration 2)	4		4			
SFS 3020 Environmental Policy (COLA-STSO-421 Environmental Policy)	4		4			
Term credit total:		16	16			

Term: FALL4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
LAS-P4	3	3			
Environmental Science Concentration 3	4		4		
LAS-11	3	3			
COS-IMGS-431 Env. Apps. of Remote Sensing	3		3		COS-ENVS-250
Open Elective	3				
Term credit total:	16	6	7		

Term: SPRING4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
ENVS-450 Hydrologic Applications of GIS	4		4	X	COS-ENVS-250
Environmental Science Concentration 4	4		4		
LAS-12	3	3			
Open Elective	3				
LAS-13	3	3			COS-STAT-145
Term credit total:	17	3	7		

Program Totals:	Credits: 125	Liberal Arts & Sciences: 63	Major: 56	Elective & Other: 6
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- * This example uses the School for Field Studies courses from The Center for Rainforest Studies in Australia. Similar courses are offered at all SFS locations.
- **Because the SFS courses are worth 4 SCH and the RIT equivalent courses are worth 3 SCH, we bundle the 3 “extra” credits to give credit towards both capstone courses (ENVS-551/552) for the research experience.

IMAGING SCIENCE—BS
Study Abroad Pathway
(last revised September 2016)

Table 1a: Academic Program Schedule

Undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or program coordinator before planning your study abroad trip.

Term: FALL 1		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-IMGS-181 Innovative Freshman Experience I	3		3		Permission of instructor
CIAS-SOFA-103 Introduction to Imaging and Video Systems (G1)	3	3			DIGCIMS-BS or IMGS-BS or SCIMGS-IM
COS-MATH-181 Project-Based Calculus I (P7a)	4	4			
CLA-UWRT-150 FYW: Writing Seminar (F2)	3	3			
Liberal Arts & Sciences (P1)	3	3			
Year One	0	0			
Term credit total:	16	13	3		
Term: FALL 2 –STUDY ABROAD *		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-IMGS-180 Introduction to Computing and Control	3		3		IMGS-BS or DIGCIME-BS Major students.
COS-MATH-221 Multivariable and Vector Calculus (G3)	4	4			COS-MATH-182
COS-PHYS-212 University Physics II (P6)	4	4			COS-PHYS-211
Liberal Arts & Sciences (P2)	3	3			
Term credit total:	14	11	3		
Term: SPRING 1		(Check course classification (s))			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-IMGS-182 Innovative Freshman Experience II	3		3		COS-MATH-171/181 or permission of instructor
COS-IMGS-221 Vision and Psychophysics (G2)	3	3			SOFA-103 or equivalent
COS-MATH-182 Project-Based Calculus II (P7b)	4	4			COS-MATH-181
COS-PHYS-211 University Physics I (P5)	4	4			COS-MATH-181
General Education Elective (F1)	3	3			
Term credit total:	17	14	3		
Term: SPRING 2		(Check course classification (s))			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-IMGS-211 Probability & Statistics for Imaging	3		3		COS-MATH-221
COS-IMGS-351 Fundamentals of Color Science (G4)	3	3			COS-IMGS-180 COS-IMGS-221
COS-IMGS-261 Linear and Fourier Methods for Imaging (G5)	4	4			COS-MATH-173 or MATH 182 or MATH 182A
COS-PHYS-213 Modern Physics I (G6)	3	3			COS-MATH-182
Liberal Arts & Sciences (P3)	3	3			
Term credit total:	16	13	3		

Term: FALL 3						Term: SPRING 3					
Check course classification (s)						Check course classification (s)					
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-IMGS-321 Geometric Optics	3		3		COS-PHYS-212	COS-IMGS-322 Physical Optics	3		3		COS-PHYS-212, COS-IMGS-261
COS-IMGS-251 Radiometry	3		3		COS-MATH-173, MATH-182, MATH- 182A, COS-PHYS-212	COS-IMGS-341 Interactions Between Light & Matter	3		3		COS-PHYS-213
COS-IMGS-361 Image Processing & Computer Vision I	3		3		COS-IMGS-261, COS- IMGS-180 or equivalent	COS-IMGS-362 Image Processing & Computer Vision II	3		3		COS-IMGS-361
Open Elective (1)	3					Open Elective (2)	3				
Liberal Arts & Sciences (P4)	3	3				Liberal Arts & Science (I1)	3	3			
Term credit total:	15	3	9			Term credit total:	15	3	9		
Term: FALL 4						Term: SPRING 4					
Check course classification (s)						Check course classification (s)					
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-IMGS-441 Noise & System Modeling	3		3		COS-IMGS-211, COS- IMGS-261, COS-IMGS- 341	COS-IMGS-451 Imaging Detectors	3		3		COS-IMGS251, COS-IMGS341 or equivalent
IMGS-371 Imaging Systems Analysis	4		4		Co-requisite IMGS-502	General Education Elective (G7)	3	3			
COS-IMGS-502 Imaging Science Senior Project I (WI)	3		3		Permission of instructor	COS-IMGS-503 Imaging Science Senior Project II	3		3		Permission of instructor
Imaging Science Elective Track / Course 1	3		3			Imaging Science Elective Track / Course 2	3		3		
Liberal Arts & Sciences (I2)	3	3				Liberal Arts & Sciences (I3)	3	3			
Term credit total:	16	3	13			Term credit total:	15	6	9		
Program Totals:		Credits: 124		Liberal Arts & Sciences: 66		Major: 52		Elective & Other: 6			

Cr: credits **LAS:** liberal arts & sciences **Maj:** major requirement **New:** new course **Prerequisite(s):** list prerequisite(s) for the noted courses

*Students choosing a Study Abroad in this term will need to find equivalent courses in a university in the host country to complete academic requirements while abroad. Students may choose to pursue a study abroad in another term, including summer, based on their academic and career objectives in consultation with their advisor and program coordinator.

PHYSICS-BS Program
Study Abroad Pathway—Option 1
 (last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-CHMG-141 General & Analytical Chemistry I (LAS-P5) Or COS-BIOL-101 General Biology I (LAS-P5)	3	3			High school chemistry or equivalent	
COS-CHMG-145 General & Analytical Chemistry I Lab (LAS-P5) Or COS-BIOL-103 General Biology I Lab (LAS-P5)	1	1			High school chemistry or equivalent	
COS-MATH-181 Project-based Calculus I (LAS-P7-A)	4	4			Three years of high school mathematics and a score of 75% on the RIT Mathematics Placements Exam	
COS-PHYS-150 Introduction to Special Relativity	3		3		High school algebra and physics	
LAS Elective (LAS-E5)	3	3				
Liberal Arts and Sciences perspective (LAS-P1)	3	3				
Term credit total:	17	14	3			
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-MATH-219 Multivariable Calculus (LAS-E2)	3	3			COS-MATH-182	
COS-PHYS-217 University Physics II: Physics majors (LAS-E3)	4	4			COS-MATH-182, COS-PHYS-216	
COS-PHYS-225 Introduction to Computational Physics and Programming	3		3		COS-PHYS-216, COS-MATH-182	
Liberal Arts and Sciences perspective (LAS-P2)	3	3				
Liberal Arts and Sciences perspective (LAS-P3)	3	3				
Term credit total:	16	13	3			
Term: Spring 1		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-CHMG-142 General & Analytical Chemistry II (LAS-P6) Or COS-BIOL-102 General Biology II (LAS-P6)	3	3			COS-CHMG-141	
COS-CHMG-146 General & Analytical Chemistry II Lab (LAS-P6) Or COS-BIOL-104 General Biology II Lab (LAS-P6)	1	1			COS-CHMG-141, COS-CHMG-145	
COS-MATH-182 Project-based Calculus II (LAS-P7-B)	4	4			COS-MATH-181	
COS-PHYS-216 University Physics I: for Physics majors (LAS-E1)	4	4			COS-MATH-181	
First-year writing intensive course (LAS-F2)(WI)	3	3		N		
Term credit total:	15	15				
Term: Spring 2		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-MATH-231 Differential Equations (LAS-E4)	3	3			COS-MATH-182	
COS-PHYS-213 Modern Physics I	3		3		COS-PHYS-217	
COS-PHYS-222 Electronic Measurements	3		3		COS-PHYS-217	
COS-PHYS-275 Sophomore Physics Seminar	1		1		COS-PHYS-217	
COS-PHYS-283 Vibrations and Waves	3		3		COS-PHYS-217, COS-MATH-182	
Liberal Arts and Sciences perspective (LAS-P4)	3	3				
Term credit total:	16	6	10			

Term: Fall 3		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-PHYS-214 Modern Physics II	3		3		COS-PHYS-213, COS-PHYS-275
COS-PHYS-315 Experiments in Modern Physics	3		3		COS-PHYS-213, COS-PHYS-275
COS-PHYS-320 Mathematical Methods in Physics	3		3		COS-MATH-219, COS-MATH-231, COS-PHYS-217
COS-PHYS-330 Classical Mechanics	4		4		COS-PHYS-217, COS-MATH-219, COS-MATH-231, COS-PHYS-275
Liberal Arts and Sciences immersion (LAS-I1)	3	3			
Term credit total:	16	3	13		
Term: Summer 3—STUDY ABROAD		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Open elective	3				
Liberal Arts and Sciences elective (LAS-E5)	3	3			
Term credit total:	6				
Term: Fall 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-PHYS-414 Quantum Mechanics	3		3		COS-PHYS-213, COS-PHYS-320, COS-PHYS-330
COS-PHYS-440 Thermal and Statistical Physics	3		3		COS-PHYS-213, COS-MATH-231, COS-PHYS-275
COS-PHYS-451 Capstone Project I	3		3		COS-PHYS-450
COS-PHYS-xxx Physics elective ^b	3		3		
Term credit total:	12		12		

Term: Spring 3		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-PHYS-316 Advanced Laboratory in Physics	3		3		COS-PHYS-214, COS-PHYS-315
COS-PHYS-411 Electricity and Magnetism	4		4		COS-PHYS-212, COS-PHYS-320, COS-PHYS-275, COS-PHYS-275
COS-PHYS-450 Capstone Preparation	1		1		Departmental approval
COS-PHYS-xxx Lab/computation physics electives ^a	3		3		
Liberal Arts and Sciences immersion (LAS-I2)	3	3			
Term credit total:	14	3	11		
Term:		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
Term credit total:					
Term: Spring 4		Check course classification (s)			
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)
COS-PHYS-452 Capstone Project II (WI)	3		3		COS-PHYS-451
COS-PHYS-xxx Physics elective ^c	3		3		
Open elective	3				
Liberal Arts and Sciences immersion (LAS-I3)	3	3			
Term credit total:	12	3	6		

Program Totals:	Credits: 124	Liberal Arts & Sciences: 60	Major: 58	Elective & Other: 6
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Cr: credits **LAS:** liberal arts & sciences **Maj:** major requirement **New:** new course **Prerequisite(s):** list prerequisite(s) for the noted courses
^a Such as: COS-PHYS-360 Introduction to Chaotic Dynamics, COS-PHYS-365-Physical Optics, COS-PHYS-373-Observational Astronomy, COS-PHYS-377-Advanced Computational Physics, COS-PHYS-667-Quantum Optics
^b Such as: COS-PHYS-321-Advanced Mathematical Methods in Physics, PHYS-370-Stellar Astrophysics, PHYS-371-Galactic Astrophysics, PHYS-372-Extragalactic Astrophysics and Cosmology, PHYS-408-Laser Physics, PHYS-412-Advanced Electricity and Magnetism, PHYS-415-Advanced Quantum Mechanics, PHYS-441-Advanced Thermal and Statistical Physics, PHYS-424-Nuclear Physics, PHYS-432-Solid State Physics
^c All courses in ^a and ^b

PHYSICS-BS Program
Study Abroad Pathway—Option 2
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-CHMG-141 General & Analytical Chemistry I (LAS-P5) Or COS-BIOL-101 General Biology I (LAS-P5)	3	3			High school chemistry or equivalent	
COS-CHMG-145 General & Analytical Chemistry I Lab (LAS-P5) Or COS-BIOL-103 General Biology I Lab (LAS-P5)	1	1			High school chemistry or equivalent	
COS-MATH-181 Project-based Calculus I (LAS-P7-A)	4	4			Three years of high school mathematics and a score of 75% on the RIT Mathematics Placements Exam	
COS-PHYS-150 Introduction to Special Relativity	3		3		High school algebra and physics	
LAS Elective (LAS-E5)	3	3				
Liberal Arts and Sciences perspective (LAS-P1)	3	3				
Term credit total:	17	14	3			
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-MATH-219 Multivariable Calculus (LAS-E2)	3	3			COS-MATH-182	
COS-PHYS-217 University Physics II: Physics majors (LAS-E3)	4	4			COS-MATH-182, COS-PHYS-216	
COS-PHYS-225 Introduction to Computational Physics and Programming	3		3		COS-PHYS-216, COS-MATH-182	
Liberal Arts and Sciences perspective (LAS-P2)	3	3				
Liberal Arts and Sciences perspective (LAS-P3)	3	3				
Term credit total:	16	13	3			
Term: Spring 1		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-CHMG-142 General & Analytical Chemistry II (LAS-P6) Or COS-BIOL-102 General Biology II (LAS-P6)	3	3			COS-CHMG-141	
COS-CHMG-146 General & Analytical Chemistry II Lab (LAS-P6) Or COS-BIOL-104 General Biology II Lab (LAS-P6)	1	1			COS-CHMG-141, COS-CHMG-145	
COS-MATH-182 Project-based Calculus II (LAS-P7-B)	4	4			COS-MATH-181	
COS-PHYS-216 University Physics I: for Physics majors (LAS-E1)	4	4			COS-MATH-181	
First-year writing intensive course (LAS-F2)(WI)	3	3		N		
Term credit total:	15	15				
Term: Spring 2		(Check course classification (s))				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-MATH-231 Differential Equations (LAS-E4)	3	3			COS-MATH-182	
COS-PHYS-213 Modern Physics I	3		3		COS-PHYS-217	
COS-PHYS-222 Electronic Measurements	3		3		COS-PHYS-217	
COS-PHYS-275 Sophomore Physics Seminar	1		1		COS-PHYS-217	
COS-PHYS-283 Vibrations and Waves	3		3		COS-PHYS-217, COS-MATH-182	
Liberal Arts and Sciences perspective (LAS-P4)	3	3				
Term credit total:	16	6	10			

Term: Fall 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-PHYS-214 Modern Physics II	3		3		COS-PHYS-213, COS-PHYS-275	
COS-PHYS-315 Experiments in Modern Physics	3		3		COS-PHYS-213, COS-PHYS-275	
COS-PHYS-320 Mathematical Methods in Physics	3		3		COS-MATH-219, COS-MATH-231, COS-PHYS-217	
COS-PHYS-330 Classical Mechanics	4		4		COS-PHYS-217, COS-MATH-219, COS-MATH-231, COS-PHYS-275	
Liberal Arts and Sciences immersion (LAS-I1)	3	3				
Term credit total:		16	3	13		
Term: Summer 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-PHYS-451 Capstone Project I	3		3		COS-PHYS-450	
Term credit total:		3	3			
Term: Fall 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-PHYS-414 Quantum Mechanics	3		3		COS-PHYS-213, COS-PHYS-320, COS-PHYS-330	
COS-PHYS-440 Thermal and Statistical Physics	3		3		COS-PHYS-213, COS-MATH-231, COS-PHYS-275	
COS-PHYS-452 Capstone Project II (WI)	3		3		COS-PHYS-451	
COS-PHYS-xxx Physics elective ^b	3		3			
Liberal Arts and Sciences immersion (LAS-I2)	3	3				
Term credit total:		15	12			

Term: Spring 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-PHYS-316 Advanced Laboratory in Physics	3		3		COS-PHYS-214, COS-PHYS-315	
COS-PHYS-411 Electricity and Magnetism	4		4		COS-PHYS-212, COS-PHYS-320, COS-PHYS-275, COS-PHYS-275	
COS-PHYS-450 Capstone Preparation	1		1		Departmental approval	
COS-PHYS-xxx Lab/computation physics electives ^a	3		3			
COS-PHYS-xxx Physics elective ^c	3	3				
Term credit total:		14	3	11		
Term:		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Term credit total:						
Term: Spring 4—STUDY ABROAD		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Open elective	3					
Liberal Arts and Sciences elective (LAS-E5)	3	3				
Open elective	3					
Liberal Arts and Sciences immersion (LAS-I3)	3	3				
Term credit total:		12	6			

Program Totals:	Credits: 124	Liberal Arts & Sciences: 60	Major: 58	Elective & Other: 6
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Cr: credits **LAS:** liberal arts & sciences **Maj:** major requirement **New:** new course **Prerequisite(s):** list prerequisite(s) for the noted courses

^a Such as: COS-PHYS-360 Introduction to Chaotic Dynamics, COS-PHYS-365-Physical Optics, COS-PHYS-373-Observational Astronomy, COS-PHYS-377-Advanced Computational Physics, COS-PHYS-667-Quantum Optics

^b Such as: COS-PHYS-321-Advanced Mathematical Methods in Physics, PHYS-370-Stellar Astrophysics, PHYS-371-Galactic Astrophysics, PHYS-372-Extragalactic Astrophysics and Cosmology, PHYS-408-Laser Physics, PHYS-412-Advanced Electricity and Magnetism, PHYS-415-Advanced Quantum Mechanics, PHYS-441-Advanced Thermal and Statistical Physics, PHYS-424-Nuclear Physics, PHYS-432-Solid State Physics

^c All courses in ^a and ^b

PHYSICS-BS Program
Study Abroad Pathway—Option 3
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

*These undergraduate program schedules are subject to change.
Please verify information with your academic advisor and/or School representative before planning your study abroad trip.*

Term: Fall 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-CHMG-141 General & Analytical Chemistry I (LAS-P5) Or COS-BIOL-101 General Biology I (LAS-P5)	3	3			High school chemistry or equivalent	
COS-CHMG-145 General & Analytical Chemistry I Lab (LAS-P5) Or COS-BIOL-103 General Biology I Lab (LAS-P5)	1	1			High school chemistry or equivalent	
COS-MATH-181 Project-based Calculus I (LAS-P7-A)	4	4			Three years of high school mathematics and a score of 75% on the RIT Mathematics Placements Exam	
COS-PHYS-150 Introduction to Special Relativity	3		3		High school algebra and physics	
LAS Elective (LAS-E5)	3	3				
Liberal Arts and Sciences perspective (LAS-P1)	3	3				
Term credit total:	17	14	3			
Term: Fall 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-MATH-219 Multivariable Calculus (LAS-E2)	3	3			COS-MATH-182	
COS-PHYS-217 University Physics II: Physics majors (LAS-E3)	4	4			COS-MATH-182, COS-PHYS-216	
COS-PHYS-225 Introduction to Computational Physics and Programming	3		3		COS-PHYS-216, COS-MATH-182	
Liberal Arts and Sciences perspective (LAS-P2)	3	3				
Liberal Arts and Sciences perspective (LAS-P3)	3	3				
Term credit total:	16	13	3			
Term: Spring 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-CHMG-142 General & Analytical Chemistry II (LAS-P6) Or COS-BIOL-102 General Biology II (LAS-P6)	3	3			COS-CHMG-141	
COS-CHMG-146 General & Analytical Chemistry II Lab (LAS-P6) Or COS-BIOL-104 General Biology II Lab (LAS-P6)	1	1			COS-CHMG-141, COS-CHMG-145	
COS-MATH-182 Project-based Calculus II (LAS-P7-B)	4	4			COS-MATH-181	
COS-PHYS-216 University Physics I: for Physics majors (LAS-E1)	4	4			COS-MATH-181	
First-year writing intensive course (LAS-F2)(WI)	3	3		N		
Term credit total:	15	15				
Term: Spring 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-MATH-231 Differential Equations (LAS-E4)	3	3			COS-MATH-182	
COS-PHYS-213 Modern Physics I	3		3		COS-PHYS-217	
COS-PHYS-222 Electronic Measurements	3		3		COS-PHYS-217	
COS-PHYS-275 Sophomore Physics Seminar	1		1		COS-PHYS-217	
COS-PHYS-283 Vibrations and Waves	3		3		COS-PHYS-217, COS-MATH-182	
Liberal Arts and Sciences perspective (LAS-P4)	3	3				
Term credit total:	16	6	10			

Term: Fall 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-PHYS-214 Modern Physics II	3		3		COS-PHYS-213, COS-PHYS-275	
COS-PHYS-315 Experiments in Modern Physics	3		3		COS-PHYS-213, COS-PHYS-275	
COS-PHYS-320 Mathematical Methods in Physics	3		3		COS-MATH-219, COS-MATH-231, COS-PHYS-217	
COS-PHYS-330 Classical Mechanics	4		4		COS-PHYS-217, COS-MATH-219, COS-MATH-231, COS-PHYS-275	
Liberal Arts and Sciences immersion (LAS-I1)	3	3				
Term credit total:		16	3	13		

Term: Fall 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-PHYS-450 Capstone Preparation (completed at start of term)	1		1		Departmental approval	
COS-PHYS-414 Quantum Mechanics	3		3		COS-PHYS-213, COS-PHYS-320, COS-PHYS-330	
COS-PHYS-440 Thermal and Statistical Physics	3		3		COS-PHYS-213, COS-MATH-231, COS-PHYS-275	
COS-PHYS-451 Capstone Project I	3		3		COS-PHYS-450	
COS-PHYS-xxx Physics elective ^b	3		3			
Open elective	3					
Term credit total:		16		13		

Term: Spring 3: Study Abroad		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
Liberal Arts and Sciences elective (LAS-E5)	3	3				
An approved equivalent for COS-PHYS-411 Electricity and Magnetism	4		4		COS-PHYS-212, COS-PHYS-320, COS-PHYS-275, COS-PHYS-275	
Liberal Arts and Sciences immersion (LAS-I2)	3	3				
An approved equivalent for COS-PHYS-xxx Physics elective ^c	3		3			
Term credit total:		13	3	11		

Term: Spring 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
COS-PHYS-452 Capstone Project II (WI)	3		3		COS-PHYS-451	
COS-PHYS-xxx Lab/computation physics electives ^a	3		3			
COS-PHYS-316 Advanced Laboratory in Physics	3		3		COS-PHYS-214, COS-PHYS-315	
Open elective	3					
Liberal Arts and Sciences immersion (LAS-I3)	3	3				
Term credit total:		15	6	9		

Program Totals:	Credits: 124	Liberal Arts & Sciences: 60	Major: 58	Elective & Other: 6
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Cr: credits **LAS:** liberal arts & sciences **Maj:** major requirement **New:** new course **Prerequisite(s):** list prerequisite(s) for the noted courses

^a Such as: COS-PHYS-360 Introduction to Chaotic Dynamics, COS-PHYS-365-Physical Optics, COS-PHYS-373-Observational Astronomy, COS-PHYS-377-Advanced Computational Physics, COS-PHYS-667-Quantum Optics

^b Such as: COS-PHYS-321-Advanced Mathematical Methods in Physics, PHYS-370-Stellar Astrophysics, PHYS-371-Galactic Astrophysics, PHYS-372-Extragalactic Astrophysics and Cosmology, PHYS-408-Laser Physics, PHYS-412-Advanced Electricity and Magnetism, PHYS-415-Advanced Quantum Mechanics, PHYS-441-Advanced Thermal and Statistical Physics, PHYS-424-Nuclear Physics, PHYS-432-Solid State Physics

^c All courses in ^a and ^b

Applied Statistics & Actuarial Science—BS Program
Study Abroad Pathway – Option 1
(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: FALL 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-199 Mathematics and Statistics Seminar	1		1			
MATH-181 Project-Based Calculus I (P7)	4	4				
CSCI-101 Principles of Computing	3	3				
LAS (P3)	3	3				
LAS (P1)	3	3				
Term credit total:	14	13	1			
Term: FALL 2 – STUDY ABROAD		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-221 Multivariable and Vector Calculus	4	4			MATH-182	
MATH-251 Probability and Statistics I	3		3		MATH-182	
Open Elective 1	3					
LAS Elective 2	3	3				
LAS Elective 1	3	3				
Term credit total:	16	10	3			
Term: FALL 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
STAT-325 Design of Experiments (WI)	3		3		MATH-252	
STAT-511 Statistical Software	3		3		MATH-252	
MATH-399 Math/Stat Job Seminar	0		0			
Program Elective 1	3		3			
LAS (Immersion 1)	3	3				
LAS elective 4	3	3				
Term credit total:	15	6	9			
Term: SPRING 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-182 Project-Based Calculus II (P8)	4	4			MATH-181	
Science I LAS (P5)	4	4				
LAS (P2)	3	3				
First-Year Writing (WI)	3	3				
Term credit total:	14	14	0			
Term: SPRING 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-241 Linear Algebra I	3		3		MATH-221	
MATH-252 Probability and Statistics II	3		3		MATH-251	
MATH-200 Discrete Mathematics and Introduction to Proof	3		3		MATH-182	
Science II LAS (P6)	4	4			Science I	
LAS (P4)	3	3				
Term credit total:	16	7	9			
Term: SPRING 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
STAT-305 Regression Analysis	3		3		MATH-241, -252	
MATH-255 Actuarial Mathematics	2		2		MATH-251	
MATH-261 Topics in Math Finance	3		3		MATH-221, -145	
LAS (Immersion 2)	3	3				
LAS elective 3	3	3				
Program Elective 2	3		3			
Term credit total:	17	6	11			

Term: FALL 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
STAT-405 Mathematical Statistics I	3		3		MATH-252	
Program Elective 3	3		3			
Program Elective 4	3		3			
LAS (Immersion 3)	3	3				
Open elective 2	3					
Term credit total:	15	3	9			
Program Totals:	Credits: 122		Liberal Arts & Sciences: 62		Major: 54	Elective & Other: 6

Term: SPRING 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
STAT-406 Mathematical Statistics II	3		3		STAT- 405	
STAT-500 Senior Capstone in Statistics	3		3		STAT-305, -325	
Program Elective 5	3		3			
Program Elective 6	3		3			
LAS elective 5	3	3				
Term credit total:	15	3	12			

Cr: credits LAS: liberal arts & sciences Maj: major requirement New: new course Prerequisite(s): list prerequisite(s) for the noted courses

Additional Notes:

1. Students are required to earn passing marks on both a *first-year paper* (typically written in MATH-199) and a *third-year paper* (typically written in STAT-325). These papers are reviewed and assessed by the SMS Writing Committee.
2. Two of the six program electives must be chosen from the following list of courses:
 - a. STAT-315 Statistical Quality Control
 - b. STAT-335 Introduction to Time Series
 - c. STAT-345 Nonparametric Statistics
 - d. MATH-401 Stochastic Processes
 - e. STAT-415 Statistical Sampling
 - f. STAT-425 Multivariate Analysis
 - g. STAT-435 Statistical Linear Models

Applied Statistics & Actuarial Science—BS Program

Study Abroad Pathway – Option 2

(last revised September 2016)

Table 1a: Undergraduate Program Schedule

These undergraduate program schedules are subject to change.

Please verify information with your academic advisor and/or School representative before planning your study abroad trip.

Term: FALL 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-199 Mathematics and Statistics Seminar	1		1			
MATH-181 Project-Based Calculus I (P7)	4	4				
CSCI-101 Principles of Computing	3	3				
LAS (P3)	3	3				
LAS (P1)	3	3				
Term credit total:		14	13	1		
Term: FALL 2 – Study Abroad		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-221 Multivariable and Vector Calculus	4	4			MATH-182	
MATH-251 Probability and Statistics I	3		3		MATH-182	
Open Elective 1	3					
LAS Elective 2	3	3				
LAS Elective 1	3	3				
Term credit total:		16	10	3		
Term: FALL 3 – STUDY ABROAD		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
LAS elective 3	3	3				
Program Elective 2	3		3			
Program Elective 1	3		3			
LAS (Immersion 1)	3	3				
LAS elective 4	3	3				
Term credit total:		15	9	6		
Term: SPRING 1		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-182 Project-Based Calculus II (P8)	4	4			MATH-181	
Science I LAS (P5)	4	4				
LAS (P2)	3	3				
First-Year Writing (WI)	3	3				
Term credit total:		14	14	0		
Term: SPRING 2		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
MATH-241 Linear Algebra I	3		3		MATH-221	
MATH-252 Probability and Statistics II	3		3		MATH-251	
MATH-200 Discrete Mathematics and Introduction to Proof	3		3		MATH-182	
Science II LAS (P6)	4	4			Science I	
LAS (P4)	3	3				
Term credit total:		16	7	9		
Term: SPRING 3		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	
STAT-305 Regression Analysis	3		3		MATH-241, -252	
MATH-255 Actuarial Mathematics	2		2		MATH-251	
MATH-261 Topics in Math Finance	3		3		MATH-221, -145	
LAS (Immersion 2)	3	3				
LAS (Immersion 3)	3	3				
Open elective 2	3					
MATH-399 Math/Stat Job Seminar	0		0			
Term credit total:		17	6	8		

Term: FALL 4		Check course classification (s)					Term: SPRING 4		Check course classification (s)				
Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)	Course Number & Title	CR	LAS	Maj	New	Prerequisite(s)		
STAT-405 Mathematical Statistics I	3		3		MATH-252	STAT-406 Mathematical Statistics II	3		3		STAT- 405		
STAT-325 Design of Experiments (WI)	3		3		MATH-252	STAT-500 Senior Capstone in Statistics	3		3		STAT-305, -325		
STAT-511 Statistical Software	3		3		MATH-252	Program Elective 5	3		3				
Program Elective 3	3		3			Program Elective 6	3		3				
Program Elective 4	3		3			LAS elective 5	3	3					
Term credit total:	15	0	15			Term credit total:	15	3	12				
Program Totals:	Credits: 122		Liberal Arts & Sciences: 62			Major: 54			Elective & Other: 6				

Cr: credits LAS: liberal arts & sciences Maj: major requirement New: new course Prerequisite(s): list prerequisite(s) for the noted courses

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