PHYSICS ORIENTATION

FALL 2023

NEW AND RETURNING STUDENTS

- OVERVIEW OF THE DEPARTMENT
- PROGRAM OVERVIEW
- CO-OP PROGRAM AND C-EDGE
- AWARDS and RESEARCH OPPORTUNITIES
- CUBCAPS
- USEFUL LINKS and RESOURCES
- ACADEMIC INTEGRITY
- DIVERSITY and INCLUSION
- BOOK AN APPOINMENT WITH ACADEMIC ADVISOR
- Q&A

OVERVIEW OF THE DEPARTMENT

- PEOPLE
- CAMPUS
- USEFUL SPACES
- PROGRAMS

PEOPLE

Dr. Laszlo Kalman

Undergraduate and Co-op Program Director

Office: SP-365.10

laszlo.kalman@concordia.ca

Nata Zazubovits

BSc Coordinator and Academic Advisor

Office: SP-367.01

physics-advising@concordia.ca

- BOOK a ZOOM meeting
- BOOK an IN-PERSON meeting

PEOPLE

Dr. Valter Zazubovits

Department Chair

Office: SP-367.03

valter.zazubovits@concordia.ca

Patrick Doane

Teaching Lab Supervisor

Office: SP 265.01

patrick.doane@concordia.ca

In-person (on campus): Tuesday-Friday

CAMPUS


Loyola Campus
7141 Sherbrooke St. W. H4B 1R6
UNIVERSITÉ Concordia UNIVERSITY
Somerled St.
Terrebonne St.
Patricia Ave.
Westmore Ave.
West Broadway St.
Elmhurst St.
Coffee St.
SHERBROOKE St. W.
DE MAISONNEUVE Blvd. W.
Belmore Ave.
Coronation Ave.
Monkland Ave.
Mayfair Ave.
Marlette Ave.
Park Row St. W.
TJ
SI
JR
SH
HB
HC
HA
SP
RF
CJ
(DS/DA)
AD
CC
PY
TA
PS
SC
PT
BB
BH
VE
VL
FC
PB
PG
PA
PE

link

DEPARTMENT OF PHYSICS SPACES

SP Building 3rd Floor

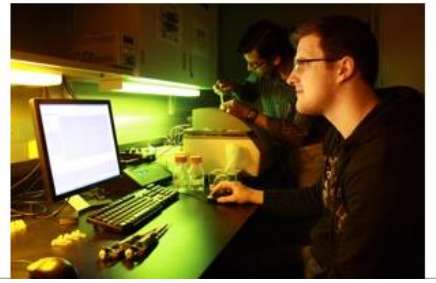
- Department of Physics Kitchen
- Undergraduate Physics Study Room
- Offices for most Physics Faculty and TAs

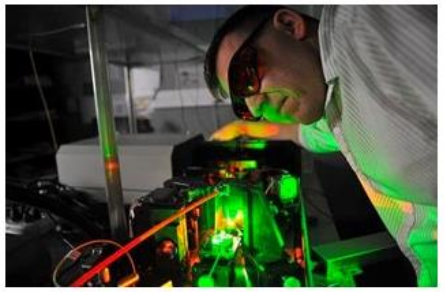
link

DEPARTMENT OF PHYSICS SPACES

Research Labs (see also Department of Physics → Research)

SP Building Basement, 3rd & 5th floor, PERFORM Centre





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PROGRAM OVERVIEW

- PROGRAMS
- UNDERGRADUATE ACADEMIC CALENDAR
- COURSE LOAD/ COURSE SEQUENCE
- YEAR ZERO
- PREREQUISITES
- ELECTIVES
- SPECIALIZATION/HONOURS PROGRAM
- COURSES TAUGHT DURING FALL/WINTER/SUMMER
- TUTORIALS
- IMPORTANT DATES

PROGRAMS

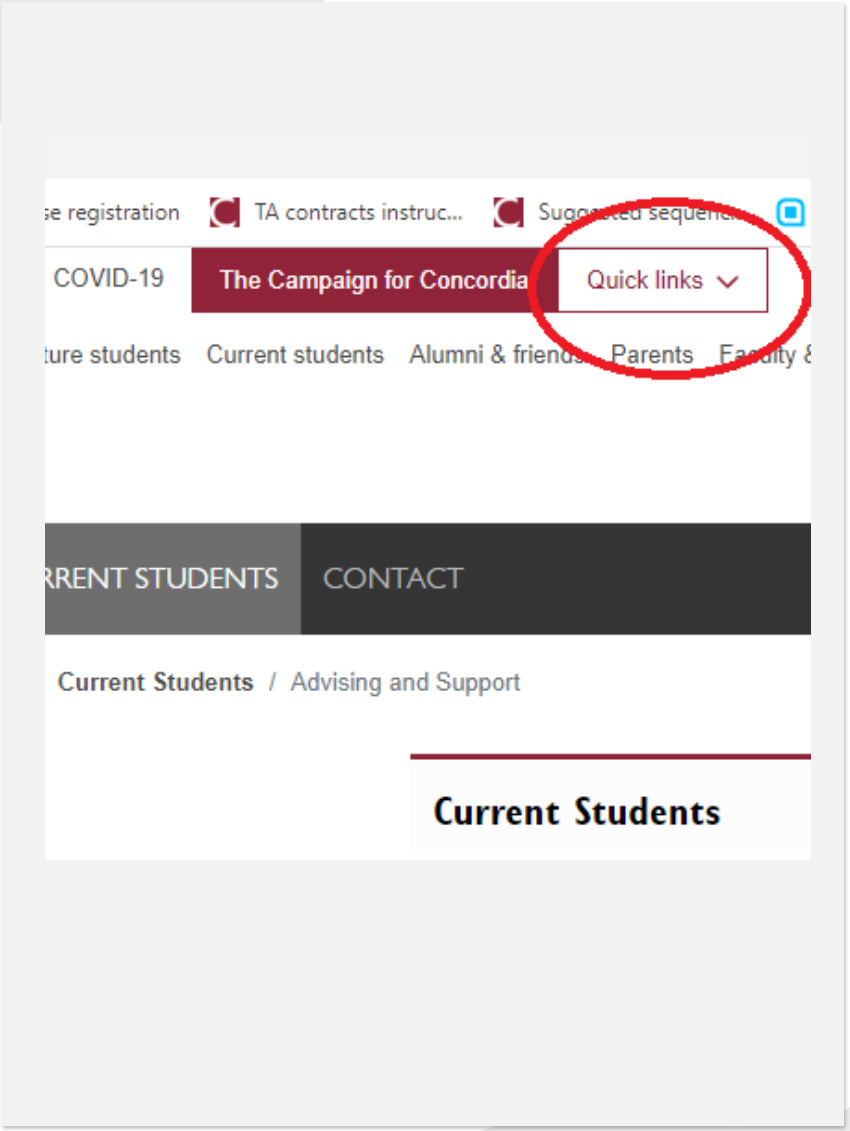
- MAJOR IN PHYSICS
- SPECIALIZATION IN PHYSICS
- SPECIALIZATION IN BIOPHYSICS
- HONOURS IN PHYSICS (GPA > 3.3)
- HONOURS IN BIOPHYSICS
- MINOR IN BIOPHYSICS
- CO-OP PROGRAM (COMBINE WITH YOUR CONCENTRATION)
- C-EDGE PROGRAM (COMBINE WITH YOUR CONCENTRATION)

UNDERGRADUATE CALENDAR

https://www.concordia.ca/

QUICK LINKS/ UNDERGRADUATE CALENDAR/YEAR OF YOUR ADMISSION

OR use the internal Concordia SEARCH option to search for the Undergraduate Calendar



UNDERGRADUATE CALENDAR

42 Core Program
6 MAST 218[3], 219[3]
36 PHYS 230[3], 232[3], 236[3], 245[3], 252[3], 253[3], 334[3], 335[3], 354[3], 367[3], 377[3], 435[3]

72 BSc Honours in Physics
42 Core Program
6 PHYS 496[6]
AND

Concentration in Physics
18 PHYS 330[3], 345[3], 355[3], 459[3], 468[3], 478[3]
6 Chosen from PHYS 289[3], 370[3], 389[3], 436[3], 440[3], 443[3], 445[3], 458[3], 498[3]
OR
Concentration in Biophysics
12 BIOL 266[3]; PHYS 260[3], 330[3], 460[3]
9 Chosen from CHEM 235[3], 271[3], 431[3]; PHYS 289[3], 345[3], 370[3], 389[3], 440[3], 445[3], 459[3], 461[3], 462[3], 463[3]
3 Chosen from BIOL 261[3], 340[3], 367[3], 371[3]; PHYS 443[3]

66 BSc Specialization in Physics
Option A: Physics
42 Core Program
21 PHYS 330[3], 345[3], 355[3], 459[3], 468[3], 478[3], 497[3]
3 Chosen from PHYS 370[3], 436[3], 440[3], 443[3], 445[3], 458[3], 498[3]

66 BSc Specialization in Physics
Option B: Biophysics
42 Core Program
15 BIOL 266[3]; PHYS 260[3], 330[3], 460[3], 497[3]
6 Chosen from CHEM 235[3], 271[3], 431[3]; PHYS 345[3], 370[3], 440[3], 445[3], 459[3], 461[3], 462[3], 463[3], 468[3]
3 Chosen from BIOL 261[3], 340[3], 367[3], 371[3]; PHYS 443[3]

45 BSc Major in Physics
42 Core Program
3 Chosen from any PHYS course in consultation with an advisor

COURSE LOAD/ COURSE SEQUENCE

	SPEC in PHYSICS (66 = 42 CORE +24)	PREREQUISITES
2	18 + 3 credits	
3	PHYS 330 Experimental Physics II (3.00)	PHYS 230
4	PHYS 345 Advanced Classical Mechanics (3.00)	PHYS 232, PHYS 245, MAST 219
5	PHYS 355 Electronics (3.00)	PHYS 205
6	PHYS 459 Condensed Matter Physics I (3.00)	**PHYS 377**
7	PHYS 468 Condensed Matter Physics II (3.00)	PHYS 459, PHYS 478
8	PHYS 478 Quantum Mechanics II (3.00)	**PHYS 377**
9	PHYS 497 Specialization Research Project (3.00)	PHYS 232
10	3 credits	
11	PHYS 370 Nonlinear Dynamics/Chaos/Fractals (3.00)	PHYS 232
12	PHYS 436 Methods of Theoretical Physics III (3.00)	PHYS 335
13	PHYS 440 Computational Methods in Physics with Python (3.00)	PHYS 233, PHYS 335, **PHYS 337**
14	PHYS 443 Quantitative Human Systems Physiology (3.00)	minimum of 45 university credits
15	PHYS 445 Principles of Medical Imaging (3.00)	minimum of 45 university credits
16	PHYS 458 Advanced Electrodynamics (3.00)	PHYS 354, PHYS 436
17	PHYS 498 Advanced Topics in Physics (3.00)	
18		
19		
20	CORE PHYSICS (42)	
21	6 credits	
22	MAST 218 Multivariable Calculus I (3.00)	MATH 204 MATH 205
23	MAST 219 Multivariable Calculus II (3.00)	MAST 218
24	36 credits:	
25	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent.
26	PHYS 232 Methods of Theoretical Physics I (3.00)	MAST 218
27	PHYS 236 Numerical Methods in Physics with Python (3.00)	MATH 204, MATH 205
28	PHYS 245 Classical Mechanics (3.00)	MATH 204, MATH 205
29	PHYS 252 Optics (3.00)	PHYS 206
30	PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205, MAST 218
31	PHYS 334 Thermodynamics (3.00)	PHYS 204, MAST 218, MAST 219
32	PHYS 335 Methods of Theoretical Physics II (3.00)	PHYS 205
33	PHYS 354 Electricity and Magnetism II (3.00)	PHYS 253, MAST 219

66 BSc Specialization in Physics

42 Core Program

21 PHYS 330, 345, 355, 459, 468, 478, 497

3 Chosen from PHYS 370, 436, 440, 443, 445, 458, 498

Total: 90 or 120 credits program

66 Spec in Physics

24 = electives outside of Physics (**6** outside of Sciences)

YEAR ZERO

YEAR-0 (30 credits) of 120 credits program	PRE-RECS YEAR-0
FALL	
CHEM 205 General Chemistry (3.00)	
MATH 203 Diferential and Integral Calculus (3:00)	
MATH 204 Vectors and Matrices (3:00)	
PHYS 204 Mechanics (3:00) T	MATH 203*
BIOL 201 Introductory Biology (3:00)	
WINTER	
CHEM 206 General Chemistry II (3.00)	CHEM 205*
MATH 205 Diferential and Integral Calculus II (3:00)	
PHYS 205 Electricity and Magnetism (3:00) T	MATH 203 PHYS 204
PHYS 206 Waves, Optics, ModernPHYSics (3:00) T	PHYS 204
PHYS 224 Experimental Mecahnics (1:00)	PHYS 204
PHYS 225 Experimental Electricity and Magnetism (1:00)	PHYS 205
PHYS 226 Experimental Waves, Optics, Modern Physics (1:00)	PHYS 206
SUMMER (if needed)	
PHYS 204 Mechanics (3:00) T	
PHYS 205 Electricity and Magnetism (3:00) T	
PHYS 224 Experimental Mecahnics (1:00)	
PHYS 225 Experimental Electricity and Magnetism (1:00)	
PHYS 226 Experimental Waves, Optics, Modern Physics (1:00)	

COURSE LOAD/ COURSE SEQUENCE

Specialization, Opt A (66 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS		WINTER	PRE-RECS	CO-RECS
YEAR 1	**MAST 218 Multivariable Calculus I (3.00)**	MATH 204, MATH 205		YEAR 1	**MAST 219 Multivariable Calculus II (3.00)**	MAST 218	
	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent			**PHYS 236 Numerical Methods in Physics with Python (3.00)**	MATH 204, MATH 205	
	PHYS 245 Classical Mechanics (3.00)	MATH 204, MATH 205			**PHYS 252 Optics (3.00)**	PHYS 206	
	Elective (3:00)				Elective (3:00)		
YEAR 2	**PHYS 232 Methods of Theoretical Physics I (3.00)**		MAST 218	YEAR 2	**PHYS 367 Modern Physicics and Relativity (3.00)**	PHYS 205, PHYS 206	
	PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205	MAST 218		**PHYS 335 Methods of Theoretical Physics II (3.00)**	PHYS 232	MAST 219
	PHYS 334 Thermodynamics (3.00)	PHYS 204, MAST 218	MAST 219		**PHYS 354 Electricity and Magnetism II (3.00)**	PHYS 253	MAST 219
	Elective (3.00)				Elective (3:00)		
	*PHYS 230 and PHYS 330 (3.00) can be taken during Fall, Winter or **Summer** terms*						
YEAR 3	**PHYS 377 Quantum Mechanics I (3.00)**	PHYS 367		YEAR 3	**PHYS 435 Statistical Physics (3.00)**	PHYS 334, PHYS 367	
	PHYS 345 Advanced Classical Mechanics (3.00)	PHYS 232, PHYS 245 MAST 219			**PHYS 478 Quantum Mechanics II (3.00)**	PHYS 377	
	PHYS 330 Experimental Physics II (3.00)	PHYS 230			Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
	*PHYS 497 Specialization Research Project (3.00) can be taken during Fall, Winter or **Summer** terms*						
YEAR 4	**PHYS 459 Condensed Matter Physics I (3.00)**	PHYS 377		YEAR 4	**PHYS 468 Condensed Matter Physics II (3.00)**	PHYS 459	PHYS 478
	PHYS 355 Electronics (3.00)	PHYS 205			**PHYS 497 Specialization Research Project (3.00)**		
	Recommended PHYS 3 credits OR **Elective (3.00)**				**Recommended PHYS 3 credits** (if not taken during Fall) OR **Elective (3.00)**		

Recommended PHYS 3 credits for FALL:	PRE-RECS	CO-RECS
PHYS 440 Computational Methods in Physics with Python (3.00)	PHYS 236, PHYS 335, PHYS 377	
PHYS 443 Quantitative Human Systems Physiology (3.00)	45 credits	

Recommended PHYS 3 credits for WINTER:	PRE-RECS	CO-RECS
PHYS 445 Principles of Medical Imaging (3.00)	45 credits	
PHYS 498 Advanced Topics in Physics (3:00)	PHYS 478	

CORE PHYSICS (42)
6 credits
MAST 218 Multivariable Calculus I (3.00)
MAST 219 Multivariable Calculus II (3.00)
36 credits:
PHYS 230 Experimental Physics I (3.00)
PHYS 232 Methods of Theoretical Physics I (3.00)
PHYS 236 Numerical Methods in Physics with Python (3.00)
PHYS 245 Classical Mechanics (3.00)
PHYS 252 Optics (3.00)
PHYS 253 Electricity and Magnetism I (3.00)
PHYS 334 Thermodynamics (3.00)
PHYS 335 Methods of Theoretical Physics II (3.00)
PHYS 354 Electricity and Magnetism II (3.00)
PHYS 367 Modern Physicics and Relativity (3.00)
PHYS 377 Quantum Mechanics I (3.00)
PHYS 435 Statistical Physics (3.00)

All courses exept MAST 218. MAST 219, PHYS 230, PHYS 330 and PHYS 497 are offered once per year

66 BSc Specialization in Physics
42 Core Program
21 PHYS 330, 345, 355, 459, 468, 478, 497
3 Chosen from PHYS 370, 436, 440, 443, 445, 458, 498
Total: 90 credits program **= 66 + 24**
66 Spec in Physics
24 = electives outside of Physics (**6** outside of **Sciences**)
Sciences:
Department of Biology,
Department of Chemistry and Biochemistry
Department of Health, Kinesiology, and Applied Physiology
Department of Mathematics and Statistics
Department of Physics
Department of Psychology
Science College

All courses exept MAST 218. MAST 219, PHYS 230, PHYS 330 and PHYS 497 are offered once per year

YEAR ZERO (120 CREDITS PROGRAM)

YEAR "0" (30 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS			WINTER	PRE-RECS	CO-RECS
YEAR 0	CHEM 205 General Chemistry (3.00)				YEAR 0	CHEM 206 General Chemistry (3.00)	CHEM 205	
	MATH 203 Differencial and Integral Calculus I (3.00)	MATH 201				MATH 205 Differencial and Integral Calculus II (3.00)	MATH 203	
	MATH 204 Vectors and Matrices (3.00)	MATH 201				PHYS 205 Electricity and Magnetism (3.00)	PHYS 204	
	PHYS 204 Mechanics (3.00)		MATH 203			PHYS 206 Waves, Optics, and Modern Physics (3.00)	PHYS 204	
	BIOL 201 Introductory Biology (3.00)					PHYS 224 Experimental Mechanics (1.00)		PHYS 204
						PHYS 225 Experimental Electricity and Magnetism (1.00)		PHYS 205
						PHYS 226 Experimental Waves, Optics, and Modern Physics (1.00)		PHYS 206
	All courses exept PHYS 206 are offered during SUMMER term as well							

NB! Credits of Year Zero do not go towards the concentration but the grades of those course are counted towards the GPA

ELECTIVES

MAJOR (42+3 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS
YEAR 1	MAST 218 Multivariable Calculus I (3.00)	MATH 204 MATH 205	
	PHYS 232 Methods of Theoretical Physics I (3.00)	MAST 218	
	PHYS 245 Classical Mechanics (3.00)	MATH 204, MATH 205	
	Elective (3:00)		
YEAR 2	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent	
	PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205	MAST 218
	PHYS 334 Thermodynamics (3.00)	PHYS 204, MAST 218	MAST 219
	Elective (3:00)		
	*PHYS 230 (3.00) can be taken during Fall, Winter or **Summer** terms*		
YEAR 3	PHYS 377 Quantum Mechanics I (3.00)	PHYS 367	
	PHYSICS 3 credit of PHYS, see recommendation (3:00)		
	Elective (3:00)		
	Elective (3:00)		
YEAR 4	Elective (3:00)		
	Elective (3:00)		
	Elective (3:00)		

	WINTER	PRE-RECS
YEAR 1	MAST 219 Multivariable Calculus II (3.00)	MAST 218
	PHYS 236 Numerical Methods in Physics with Python (3.00)	MATH 204, MATH
	PHYS 252 Optics (3.00)	PHYS 206
	Elective (3:00)	
YEAR 2	PHYS 367 Modern Physicics and Relativity (3.00)	PHYS 205, PHYS 206
	PHYS 335 Methods of Theoretical Physics II (3.00)	PHYS 232
	PHYS 354 Electricity and Magnetism II (3.00)	PHYS 253
	Elective (3:00)	
YEAR 3	PHYS 435 Statistical Physics (3.00)	PHYS 334, PHYS 367
	Elective (3:00)	
	Elective (3:00)	
	Elective (3:00)	
YEAR 4	Elective (3:00)	
	Elective (3:00)	
	Elective (3:00)	

Recommended PHYS electives for FALL:	PRE-RECS	CO-RECS
PHYS 284 Introduction to Astronomy (3.00)	cannot go towards concentration	
PHYS 330 Experimental Physics II (3.00)	PHYS 230	
PHYS 345 Advanced Classical Mechanics (3.00)	PHYS 232, PHYS 245, MAST 219	
PHYS 355 Electronics (3.00)	PHYS 205	
PHYS 440 Computational Methods in Physics with Python (3.00)	PHYS 236, PHYS 335, PHYS 377	
PHYS 443 Quantitative Human Systems Physiology (3.00)		
PHYS 459 Condensed Matter Physics I (3.00)	PHYS 377	

Recommended PHYS electives for WINTER:	PRE-RECS
PHYS 260 Introductory Biophysics (3.00)	BIOL 201; CHEM 205; MATH 203; PHYS 204-206
PHYS 330 Experimental Physics II (3.00)	PHYS 230
PHYS 445 Principles of Medical Imaging (3.00)	
PHYS 460 Chemical Aspects of Biophysics (3:0)	PHYS 253
PHYS 468 Condensed Matter and Nanophysics	PHYS 459
PHYS 478 Quantum Mechanics II (3.00)	PHYS 377
PHYS 498 Advanced Topics in Physics (3:00)	PHYS 478

CORE PHYSICS (42)
6 credits
MAST 218 Multivariable Calculus I (3.00)
MAST 219 Multivariable Calculus II (3.00)
36 credits:
PHYS 230 Experimental Physics I (3.00)
PHYS 232 Methods of Theoretical Physics I (3.00)
PHYS 236 Numerical Methods in Physics with Python (3.00)
PHYS 245 Classical Mechanics (3.00)
PHYS 252 Optics (3.00)
PHYS 253 Electricity and Magnetism I (3.00)
PHYS 334 Thermodynamics (3.00)
PHYS 335 Methods of Theoretical Physics II (3.00)
PHYS 354 Electricity and Magnetism II (3.00)
PHYS 367 Modern Physicics and Relativity (3.00)
PHYS 377 Quantum Mechanics I (3.00)
PHYS 435 Statistical Physics (3.00)

All courses exept MAST 218. MAST 219, PHYS 230, PHYS 330 and PHYS 497 are offered once per year

45 BSc Major in Physics
42 Core Program
3 Chosen from PHYS electives
Total: 90 credits program = 45 of BSc Major + (24 + 21) of Electives
24 = Electives outside of Physics, including 6 outside of Sciences
21 = Electives, can be Physics (if you are taking a lot of Physics electives, concider switching to Specialization)
Sciences:
Department of Biology,
Department of Chemistry and Biochemistry
Department of Health, Kinesiology, and Applied Physiology
Department of Mathematics and Statistics
Department of Physics
Department of Psychology
Science College

Example: 4 courses per term for a Major in Physics Program

45 BSc Major in Physics
42 Core Program
3 Chosen from PHYS electives
Total: 90 credits program = 45 of BSc Major + (24 + 21) of Electives
24 = Electives outside of Physics, including 6 outside of Sciences
21 = Electives, can be Physics (if you are taking a lot of Physics electives, concider switching to Specialization)

ELECTIVES

General Education Requirement (6 credits)

NOT SCIENCES

Sciences:
Department of Biology,
Department of Chemistry and Biochemistry
Department of Health, Kinesiology, and Applied Physiology
Department of Mathematics and Statistics
Department of Physics
Department of Psychology
Science College

ELECTIVES

ELECTIVE COURSES LINK

Questions about courses in **Engineering or Computer Science**?

ASK THEM HERE

SHOULD I TAKE 5, 4 OR 3 COURSES PER TERM?

COURSE LOAD/ COURSE SEQUENCE

5 courses per term

MAJOR (42+3 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS		WINTER	PRE-RECS	CO-RECS
YEAR 1	**MAST 218 Multivariable Calculus I (3.00)**	MATH 204 MATH 205		YEAR 1	**MAST 219 Multivariable Calculus II (3.00)**	MAST 218	
	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent			**PHYS 236 Numerical Methods in Physics with Python (3.00)**	MATH 204, MATH 205	
	PHYS 232 Methods of Theoretical Physics I (3.00)		MAST 218		**PHYS 252 Optics (3.00)**	PHYS 206	
	Elective (3:00)				Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
					*PHYS 230 (3.00) can be taken during Fall, Winter or **Summer** terms*		
YEAR 2	**PHYS 253 Electricity and Magnetism I (3.00)**	PHYS 205	MAST 218	YEAR 2	**PHYS 354 Electricity and Magnetism II (3.00)**	PHYS 253	MAST 219
	PHYS 334 Thermodynamics (3.00) L PHYS 393	PHYS 204, MAST 218	MAST 219		**PHYS 367 Modern Physicics and Relativity (3.00)**	PHYS 205, PHYS 206	
	PHYS 245 Classical Mechanics (3.00)	MATH 204, MATH 205			Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
					*PHYS 230 (3.00) can be taken during Fall, Winter or **Summer** terms*		
YEAR 3	**PHYS 377 Quantum Mechanics I (3.00)**	PHYS 367		YEAR 3	**PHYS 335 Methods of Theoretical Physics II (3.00)**	PHYS 232	MAST 219
	PHYS MAJOR 3 credit of PHYS, see recommendation **(3:00)**				**PHYS 435 Statistical Physics (3.00)**	PHYS 334, PHYS 367	
	Elective (3:00)				Elective (3:00)	PHYS 253	MAST 219
	Elective (3:00)				Elective (3:00)		
	Elective (3:00)						

COURSE LOAD/ COURSE SEQUENCE

4 courses per term

MAJOR (42+3 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS		WINTER	PRE-RECS	CO-RECS
YEAR 1	**MAST 218 Multivariable Calculus I (3.00)**	MATH 204 MATH 205		YEAR 1	**MAST 219 Multivariable Calculus II (3.00)**	MAST 218	
	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent			**PHYS 236 Numerical Methods in Physics with Python (3.00)**	MATH 204, MATH 205	
	PHYS 232 Methods of Theoretical Physics I (3.00)		MAST 218		**PHYS 252 Optics (3.00)**	PHYS 206	
	Elective (3:00)				Elective (3:00)		
YEAR 2	**PHYS 245 Classical Mechanics (3.00)**	MATH 204, MATH 205		YEAR 2	**PHYS 367 Modern Physicics and Relativity (3.00)**	PHYS 205, PHYS 206	
	PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205	MAST 218		**PHYS 335 Methods of Theoretical Physics II (3.00)**	PHYS 232	MAST 219
	PHYS 334 Thermodynamics (3.00)	PHYS 204, MAST 218	MAST 219		**PHYS 354 Electricity and Magnetism II (3.00)**	PHYS 253	MAST 219
	Elective (3:00)				Elective (3:00)		
	*PHYS 230 (3.00) can be taken during Fall, Winter or **Summer** terms*						
YEAR 3	**PHYS 377 Quantum Mechanics I (3.00)**	PHYS 367		YEAR 3	**PHYS 435 Statistical Physics (3.00)**	PHYS 334, PHYS 367	
	PHYSICS 3 credit of PHYS, see recommendation (3:00)				Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
YEAR 4	Elective (3:00)			YEAR 4	Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
	Elective (3:00)				Elective (3:00)		

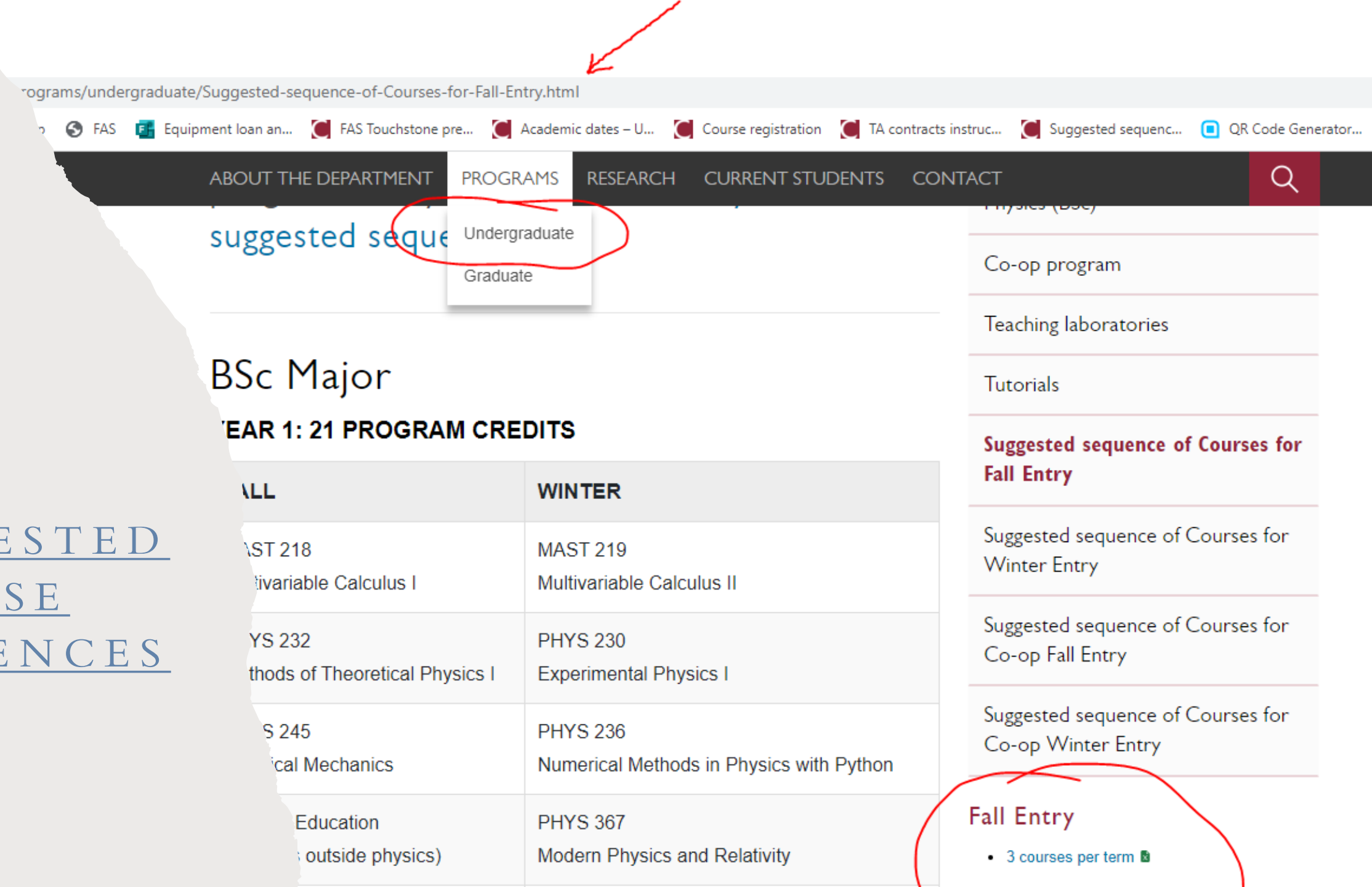
COURSE LOAD/ COURSE SEQUENCE

3 courses per term

MAJOR (42+3 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS		WINTER	PRE-RECS	CO-RECS
YEAR 1	MAST 218 Multivariable Calculus I (3.00)	MATH 204 MATH 205		YEAR 1	MAST 219 Multivariable Calculus II (3.00)	MAST 218	
	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent			PHYS 236 Numerical Methods in Physics with Python (3.00)	MATH 204, MATH 205	
	Elective (3:00)				Elective (3:00)		
YEAR 2	PHYS 232 Methods of Theoretical Physics I (3.00)	MAST 218		YEAR 2	PHYS 252 Optics (3.00)	PHYS 206	
	PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205	MAST 218		PHYS 354 Electricity and Magnetism II (3.00)	PHYS 253	MAST 219
	Elective (3:00)				Elective (3:00)		
					*PHYS 230 (3.00) can be taken during Fall, Winter or **Summer** terms*		
YEAR 3	PHYS 334 Thermodynamics (3.00)	PHYS 204, MAST 218	MAST 219	YEAR 3	PHYS 367 Modern Physicics and Relativity (3.00)	PHYS 205, PHYS 206	
	PHYS 245 Classical Mechanics (3.00)	MATH 204, MATH 205			PHYS 335 Methods of Theoretical Physics II (3.00)	PHYS 232	MAST 219
	Elective (3:00)				Elective (3:00)		
YEAR 4	PHYS MAJOR 3 credit of PHYS, see recommendation (3:00)			YEAR 4	PHYS 435 Statistical Physics (3.00)	PHYS 334, PHYS 367	
	PHYS 377 Quantum Mechanics I (3.00)	PHYS 367			Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
YEAR 5	Elective (3:00)			YEAR 5	Elective (3:00)		
	Elective (3:00)				Elective (3:00)		
	Elective (3:00)				Elective (3:00)		

SUGGESTED COURSE SEQUENCES LINK



CONCIDERING GOING TO GRADUATE SCHOOL?

66 BSc Specialization in Physics
42 Core Program
21 PHYS 330, 345, 355, 459, 468, 478, 497
3 Chosen from PHYS 370, 436, 440, 443, 445, 458, 498
Total: 90 credits program = **66 + 24**
66 Spec in Physics
24 = electives outside of Physics (**6** outside of **Sciences**)

CONCIDERING GOING TO GRADUATE SCHOOL?

Specialization, Opt A (66 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS			WINTER	PRE-RECS	CO-RECS
YEAR 1	**MAST 218 Multivariable Calculus I (3.00)**	MATH 204, MATH 205			YEAR 1	**MAST 219 Multivariable Calculus II (3.00)**	MAST 218	
	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent				**PHYS 236 Numerical Methods in Physics with Python (3.00)**	MATH 204, MATH 205	
	PHYS 232 Methods of Theoretical Physics I (3.00)		MAST 218			**PHYS 252 Optics (3.00)**	PHYS 206	
	Elective (3:00)					Elective (3:00)		
YEAR 2	**PHYS 245 Classical Mechanics (3.00)**	MATH 204, MATH 205			YEAR 2	**PHYS 367 Modern Physicics and Relativity (3.00)**	PHYS 205, PHYS 206	
	PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205	MAST 218			**PHYS 335 Methods of Theoretical Physics II (3.00)**	PHYS 232	MAST 219
	PHYS 334 Thermodynamics (3.00)	PHYS 204, MAST 218	MAST 219			**PHYS 354 Electricity and Magnetism II (3.00)**	PHYS 253	MAST 219
	Elective (3.00)					Elective (3:00)		
	*PHYS 230 and PHYS 330 (3.00) can be taken during Fall, Winter or **Summer** terms*							
YEAR 3	**PHYS 377 Quantum Mechanics I (3.00)**	PHYS 367			YEAR 3	**PHYS 435 Statistical Physics (3.00)**	PHYS 334, PHYS 367	
	PHYS 345 Advanced Classical Mechanics (3.00)	PHYS 232, PHYS 245 MAST 219				**PHYS 478 Quantum Mechanics II (3.00)**	PHYS 377	
	PHYS 330 Experimental Physics II (3.00)	PHYS 230				Elective (3:00)		
	Elective (3:00)					Elective (3:00)		
	*PHYS 497 Specialization Research Project (3.00) can be taken during Fall, Winter or **Summer** terms*							
YEAR 4	**PHYS 459 Condensed Matter Physics I (3.00)**	PHYS 377			YEAR 4	**PHYS 468 Condensed Matter Physics II (3.00)**	PHYS 459	PHYS 478
	PHYS 355 Electronics (3.00)	PHYS 205				**PHYS 497 Specialization Research Project (3.00)**		
	Recommended PHYS 3 credits OR **Elective (3.00)**			↔		**Recommended PHYS 3 credits** (if not taken during Fall) OR **Elective (3.00)**		

ONE CAN DO RESEARCH DURING THE FIRST YEAR

PHYS 289

(HONOURS RESEARCH PROJECT)

IS EXACTLY FOR THAT

Coordinator/UPD Acceptance:

STUDENT INFORMATION (Checklist filled in by the Coordinator/Program Director)

- ☐ **GPA requirements met** (GPA ≥ 3.3)
- ☐ **GPA requirements not met** (2 references needed from faculty members other than the supervisor)
- ☐ **Not in honours program yet,** recommended to take the course (PHYS 289 only)

Name: _____ Signature: _____

Date: _____

CONCIDERING GOING TO GRADUATE SCHOOL?
HONOURS PROGRAM

Honours, Opt A (72 credits) FALL ENTRY

	FALL	PRE-RECS	CO-RECS			WINTER	PRE-RECS
1	MAST 218 Multivariable Calculus I (3.00)	MATH 204 MATH 205			YEAR 1	MAST 219 Multivariable Calculus II (3.00)	MAST 218
	PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent				PHYS 236 Numerical Methods in Physics with Python (3.00)	MATH 204, MATH 205
	PHYS 232 Methods of Theoretical Physics I (3.00)		MAST 218			PHYS 252 Optics (3.00)	PHYS 206
	Elective (3:00)					Elective (3:00)	
						*Honours students can replace LIST 1 courses with PHYS 289 Honours Research Experience I. Can be taken during **Fall, Winter or Summer** terms*	
2	PHYS 245 Classical Mechanics (3.00)	MATH 204, MATH 205			YEAR 2	PHYS 367 Modern Physicics and Relativity (3.00)	PHYS 205, PHYS 206
	PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205	MAST 218			PHYS 335 Methods of Theoretical Physics II (3.00)	PHYS 232
	PHYS 334 Thermodynamics (3.00) L PHYS 393	PHYS 204, MAST 218	MAST 219			PHYS 354 Electricity and Magnetism II (3.00)	PHYS 253
	Elective (3:00)					Elective (3:00)	
	*PHYS 230 and PHYS 330 (3.00) can be taken during Fall, Winter or **Summer** terms*					*Honours students can replace LIST 1 courses with PHYS 389 Honours Research Experience II. Can be taken during **Fall, Winter or Summer** terms*	
3	PHYS 377 Quantum Mechanics I (3.00)	PHYS 367			YEAR 3	PHYS 435 Statistical Physics (3.00)	PHYS 334, PHYS 367
	PHYS 345 Advanced Classical Mechanics (3.00)	PHYS 232, PHYS 245, MAST 219				PHYS 478 Quantum Mechanics II (3.00)	PHYS 377
	PHYS 330 Experimental Physics II (3.00)	PHYS 230				Elective (3:00)	
	Elective (3:00)						
4	PHYS 496 Honours Research Project (2-term)				YEAR 4	PHYS 496 Honours Research Project (2-term) continued	
	PHYS 459 Condensed Matter Physics I (3.00)	PHYS 377				PHYS 468 Condensed Matter Physics II (3.00)	PHYS 459
	PHYS 355 Electronics (3.00)	PHYS 205				One course from List 1 (see below) (If PHYS 289/389 is taken, then elective)	
	One course from List 1 (see below) (If PHYS 289/389 is taken, then elective)						

COURSE LOAD/ COURSE SEQUENCE

WINTER/FALL

PHYS 377

PHYS 367→ PHYS 377

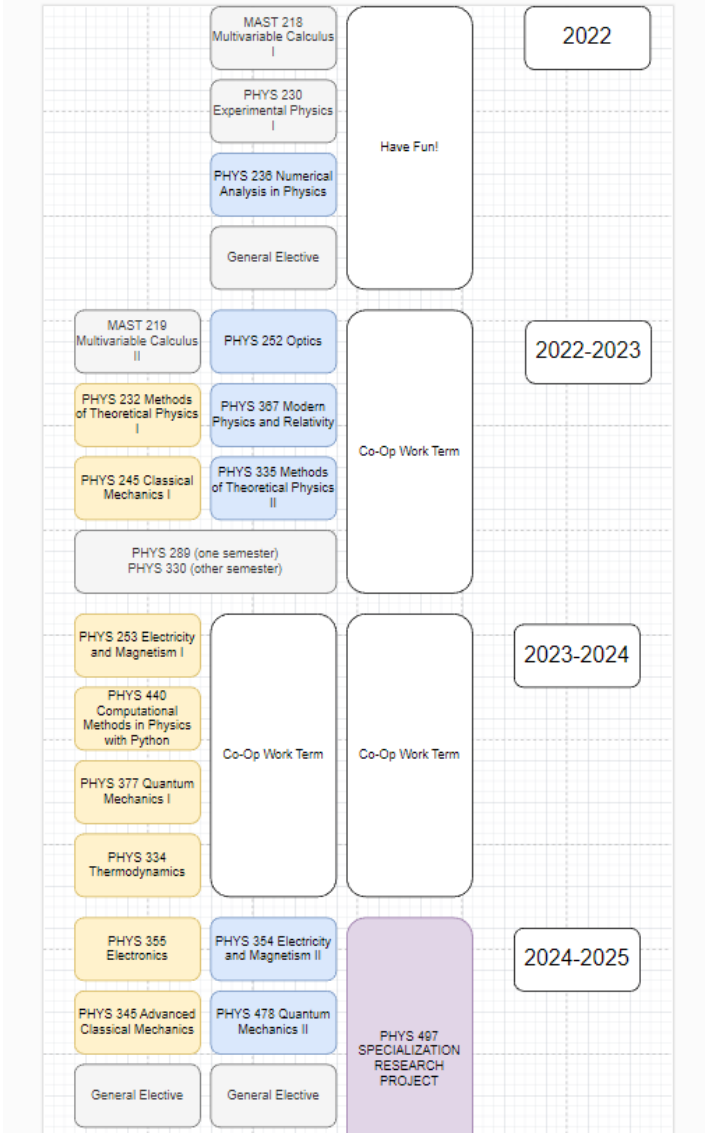
PHYS 459 Condensed Matter Physics I (3.00)	**PHYS 377**
PHYS 468 Condensed Matter Physics II (3.00)	PHYS 459, PHYS 478
PHYS 478 Quantum Mechanics II (3.00)	**PHYS 377**
PHYS 497 Specialization Research Project (3.00)	PHYS 232
3 credits	
PHYS 370 Nonlinear Dynamics/Chaos/Fractals (3.00)	PHYS 232
PHYS 436 Methods of Theoretical Physics III (3.00)	PHYS 335
PHYS 440 Computational Methods in Physics with Python (3.00)	PHYS 233, PHYS 335, **PHYS 337**
PHYS 443 Quantitative Human Systems Physiology (3.00)	minimum of 45 university credits
PHYS 445 Principles of Medical Imaging (3.00)	minimum of 45 university credits
PHYS 458 Advanced Electrodynamics (3.00)	PHYS 354, PHYS 436
PHYS 498 Advanced Topics in Physics (3.00)	
CORE PHYSICS (42)	
6 credits	
MAST 218 Multivariable Calculus I (3.00)	MATH 204 MATH 205
MAST 219 Multivariable Calculus II (3.00)	MAST 218
36 credits:	
PHYS 230 Experimental Physics I (3.00)	PHYS 204-206, PHYS 224-226; or equivalent.
PHYS 232 Methods of Theoretical Physics I (3.00)	MAST 218
PHYS 236 Numerical Methods in Physics with Python (3.00)	MATH 204, MATH 205
PHYS 245 Classical Mechanics (3.00)	MATH 204, MATH 205
PHYS 252 Optics (3.00)	PHYS 206
PHYS 253 Electricity and Magnetism I (3.00)	PHYS 205, MAST 218
PHYS 334 Thermodynamics (3.00)	PHYS 204, MAST 218, MAST 219
PHYS 335 Methods of Theoretical Physics II (3.00)	PHYS 232, MAST 219
PHYS 354 Electricity and Magnetism II (3.00)	PHYS 253, MAST 219
PHYS 367 Modern Physicics and Relativity (3.00)	PHYS 205, PHYS 206 or equivalent
PHYS 377 Quantum Mechanics I (3.00)	**PHYS 367**
PHYS 435 Statistical Physics (3.00)	PHYS 334, **PHYS 367**

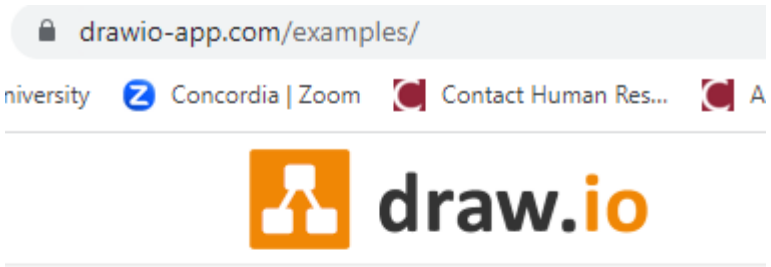
MOST OF THE PHYSICS COURSES ARE TAUGHT ONLY DURING WINTER OR FALL TERMS

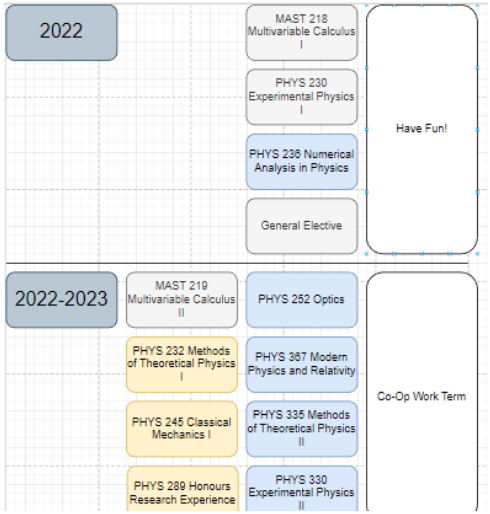
COURSES TAUGHT DURING SUMMER 2023	COURSES TAUGHT DURING FALL 2023	COURSES TAUGHT DURING WINTER 2024
PHYS 204/224	PHYS 204/224	PHYS 204/224
PHYS 205/225	PHYS 205/225	PHYS 205/225
PHYS 226	PHYS 206/226	PHYS 206/226
PHYS 200	PHYS 230	PHYS 230
PHYS 230	PHYS 330	PHYS 330
PHYS 330	PHYS 232	PHYS 236
PHYS 289	PHYS 284	PHYS 252
PHYS 389	PHYS 245	PHYS 260
PHYS 497	PHYS 253	PHYS 273
	PHYS 334	PHYS 335
	PHYS 345	PHYS 354
	PHYS 355	PHYS 367
	PHYS 377	PHYS 435
	PHYS 440	PHYS 445
	PHYS 443	PHYS 460
	PHYS 459	PHYS 468
	PHYS 289	PHYS 478
	PHYS 389	PHYS 498
	PHYS 497	PHYS 289
		PHYS 389
		PHYS 497

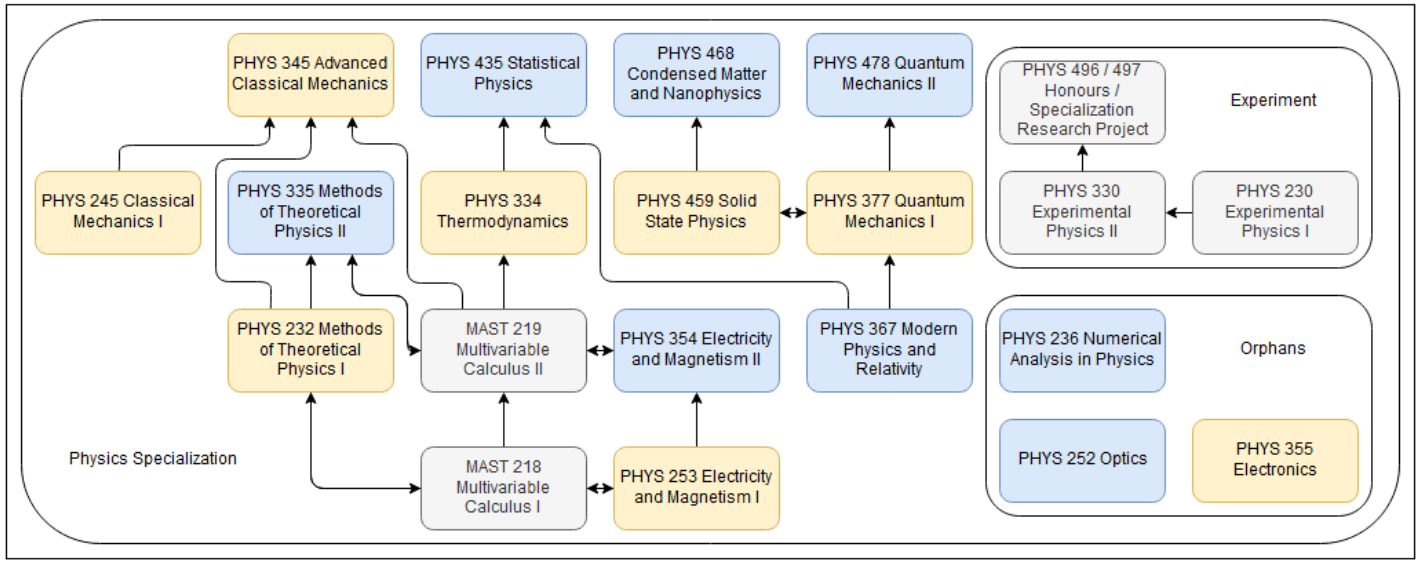
link

COURSE LOAD/ COURSE SEQUENCE





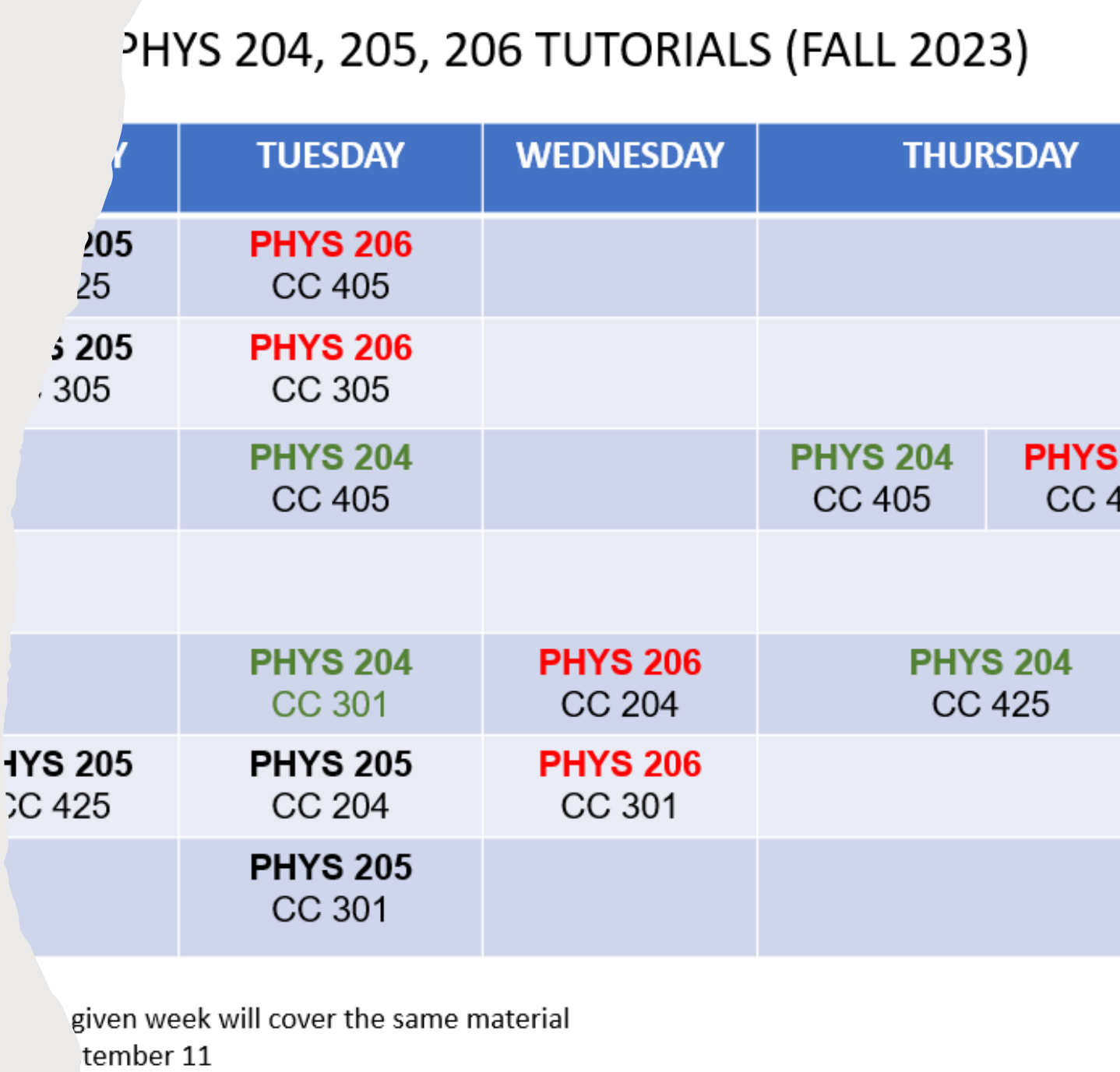




TUTORIALS

All tutorial sessions of a given week will cover the same material

Tutorials will start on September 11, 2023



PHYS 204, 205, 206 TUTORIALS (FALL 2023)

	TUESDAY	WEDNESDAY	THURSDAY	
205 25	PHYS 206 CC 405			
205 305	PHYS 206 CC 305			
	PHYS 204 CC 405		PHYS 204 CC 405	PHYS CC 4
	PHYS 204 CC 301	PHYS 206 CC 204	PHYS 204 CC 425	
HYS 205 CC 425	PHYS 205 CC 204	PHYS 206 CC 301		
	PHYS 205 CC 301			

given week will cover the same material
tember 11

TUTORIALS

PHYS 232	BSc Tutorial	Mariana Frank
PHYS 245	BSc Tutorial	Pablo Bianucci
PHYS 253	BSc Tutorial	Christophe Grova
PHYS 334	BSc Tutorial	Laszlo Kalman
PHYS 345	BSc Tutorial	Sushil Misra
PHYS 355	BSc Tutorial	Joseph Shin
PHYS 377	BSc Tutorial	Mario D'Amico
PHYS 440	BSc Tutorial	Ré Mansbach

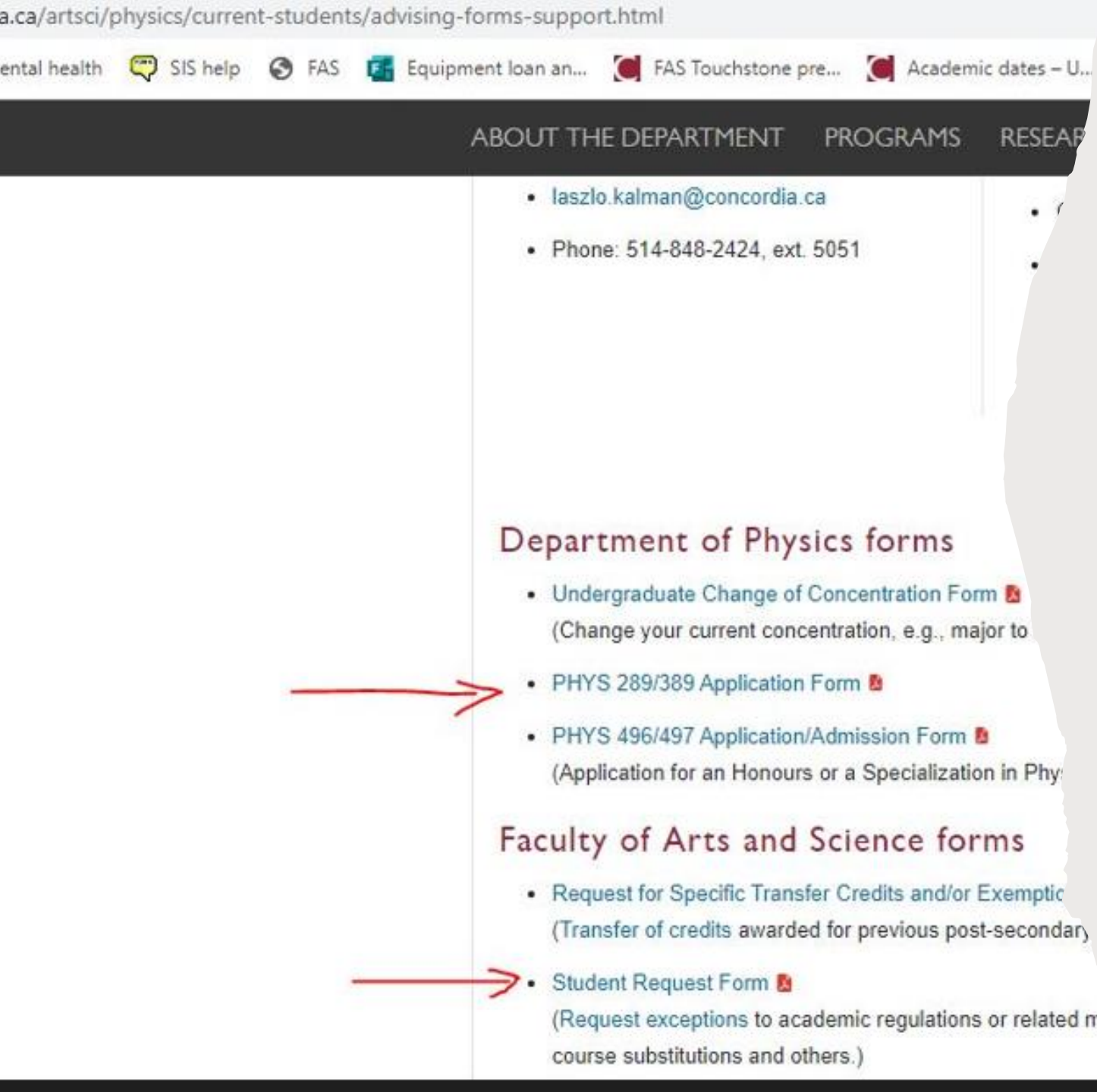
IMPORTANT DATES

DNE	DISC
Full refund	Academic withdrawal
September 18, 2023	December 5, 2023

link

IMPORTANT FORMS

link



CO-OP PROGRAM AND C-EDGE

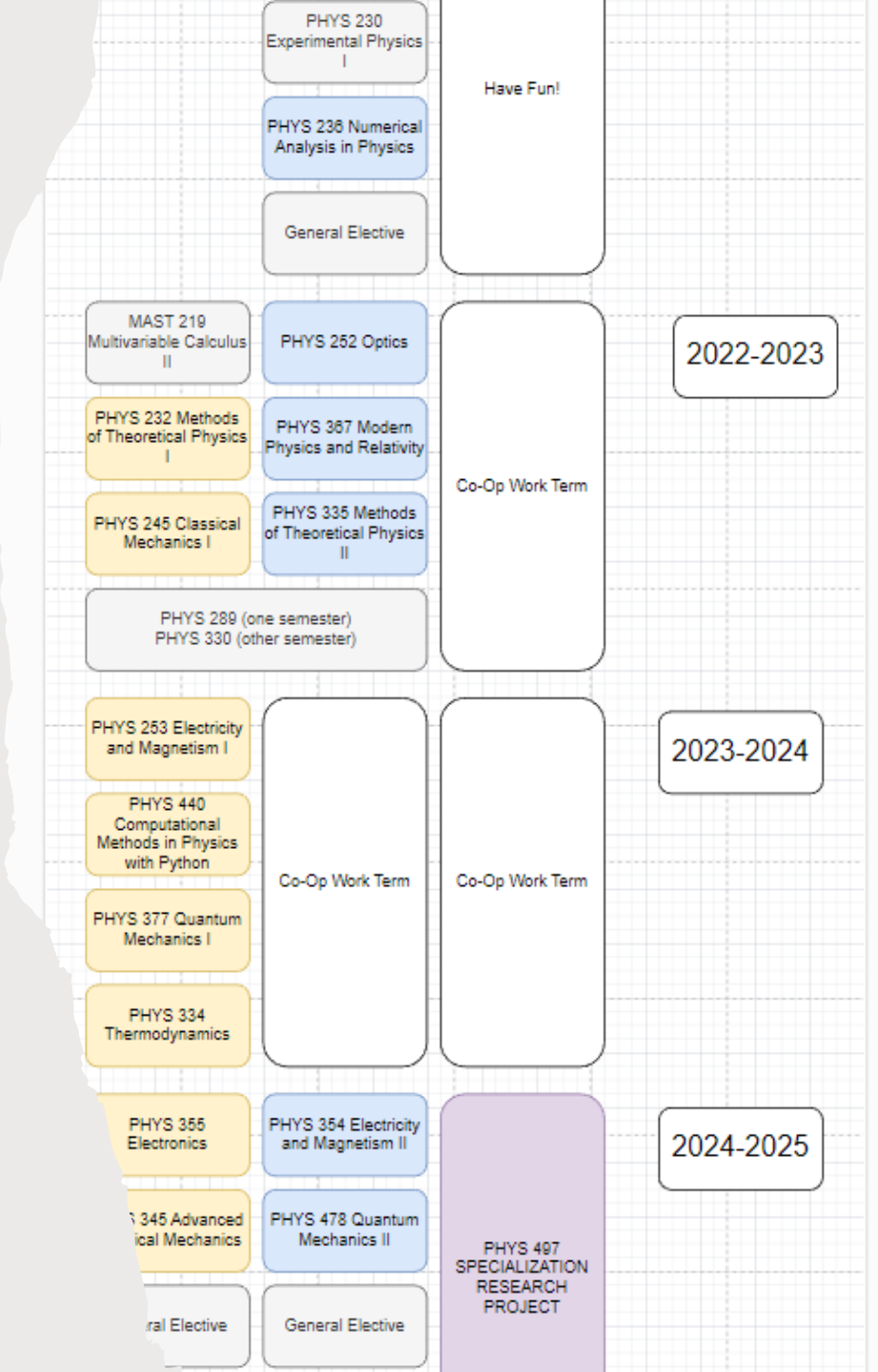
- Co-op program overview
- Co-op sequence
- A couple of examples
- C-Edge program overview

CO-OP PROGRAM

COMBINING STUDY WITH WORK EXPERIENCE

- Three paid work terms as part of your degree
- Training in CV writing and job application
- Must be a FULL-TIME student (>12 credits)
- GPA 2.8
- Contact Laszlo Kalman for details
- Requires detailed planning with Academic Advisor
- Visit Institute for Co-operative Education

CO-OP PROGRAM



CO-OP PROGRAM

COMBINING STUDY WITH WORK EXPERIENCE

Mariya Krasteva:
Co-op Internships:
McGill Space Institute
Presto Heinrich-Heine-Universität
European Space Agency

Anastasia Kolokotronis:
Coop Internships:
PERFORM Research Center,
Agilent Technologies (twice)

C-EDGE

ONE OR TWO TERMS OF WORK EXPERIENCE

- Less restrictive
- One or two work terms whenever, as long not the last term
- Training in CV writing and job application
- Contact Laszlo Kalman for details
- Visit Institute for Co-operative Education

RESEARCH OPPORTUNITIES

SUMMER RESEARCH OPPORTUNITIES

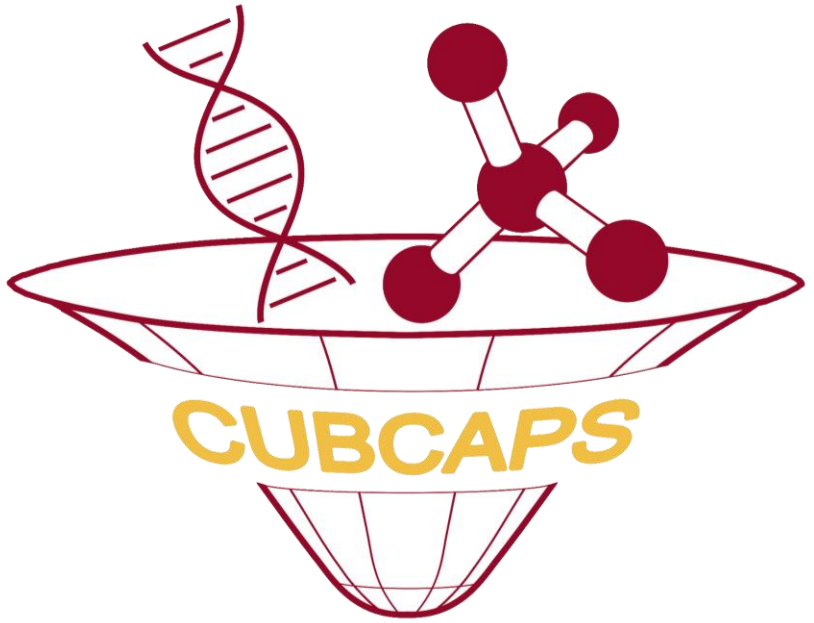
RESEARCH OPPORTUNITIES

SCIENCE COLLEGE

CONCORDIA
UNDERGRADUATE
BIOCHEMISTRY,
CHEMISTRY AND
PHYSICS SOCIETY

CUBCAPS

Physics Students DISCORD is a MUST!



HAVE A BALANCED LIFE

NEW STUDENTS STUDENT SUCCESS CENTRE

STUDENT HUB

STUDENTS SERVICES

ZEN DENS

FUTURE BOUNDS

USEFUL LINKS RESOURCES

ADMINISTRATIVE:

- Birks Student Centre
- International Student Office
- Student Accounts
- Office of Rights and Responsibilities

PHYSICAL and MENTAL HEALTH:

- First year Students counseling
- Health Services
- Access Centre for Students with Disabilities
- Counselling and Psychological Services
- Recreation and Athletics

USEFUL LINKS RESOURCES

VARIOUS:

- Campus Security
- Career Planning Services
- CU Off-Campus Housing
- Dean of Students Office
- French courses
- LIVE Centre (volunteering)
- Multi-faith and Spirituality Centre
- Navigator Program/Welcome Crew

LIBRARY and BOOKSTORE:

- Concordia Library
- Concordia Book Stop (Bookstore)

ACADEMIC INTEGRITY

Concordia University places the principle of academic integrity, that is, **honesty, responsibility and fairness in all aspects of academic life**, as one of its highest values.

Academic Code of Conduct

The most common offense under the Academic Code of Conduct is plagiarism.

- if you complete a homework with someone else, indicate it/give them a credit;
- if you use references, mention it in your work;
- be honest on exams,
- **respect the intellectual property (IP) of faculty and fellow students**.

ACADEMIC INTEGRITY

Plagiarism Policy

To plagiarize is to use the work, ideas or words of someone else. Plagiarism may involve the following:

- Copying another person's work.
- Downloading, borrowing or buying from the Internet, projects, papers or assignments.
- Overuses of someone else's work
- Misrepresenting the sources that were used.
- Allowing another person to do the work to one's academic assignment.

Sourced from the Syllabus of:

Canadian Institute of Technology - CIT
Address: Zayed Center, Rr. Andon Zako Çajupi, nr. 6, Tiranë, Albania
URL: www.cit.edu.al
Tel: +355 42 229778

Course	Fundamentals of Physics & Engineering Fundamentals
Module	Fundamentals of Physics

DIVERSITY AND INCLUSION

Our statement:

"Our Department of Physics at Concordia University is a rapidly diversifying environment. We embrace this diversity by a firm commitment to inclusiveness. Everyone who dedicates their time and passion to physics belongs here and deserves to feel equally valued and respected no matter their gender, sexual orientation, ethnicity, religion, age, or disability".

USEFUL LINKS RESOURCES

- Concordia Student Union / CUBCAPS
- Counselling & Psychological Services
- Women in Physics Canada
- Queer Concordia
- Aboriginal Student Resource Centre
- Multi-Faith and Spirituality Centre
- Access Centre for Students with Disabilities

LOYOLA LANDING

Loyola Landing is your all-in-one student services stop to get connected at Loyola!

All Concordians are invited to drop by this hub which brings together student supports and opportunities for community engagement at the Loyola Campus.

You'll find resources for:

- Academic success
- Career planning
- Student life and engagement
- Referrals and connections at the university

Our goal is to create and foster an open and lively space for students to ask questions, access services, meet with staff and get connected. We also want to showcase student projects, involve interns and volunteers, and host student run and related events.

We want to explore a different model for the delivery of student services on Loyola Campus and ensure students are included in the service design process.

https://www.concordia.ca/students/services/loyola.html

HOMEROOM

Homeroom provides a space for you to connect to other students. Through peer-to-peer facilitated virtual and in-person experiences you will meet and bond with other new Concordia students and learn how to navigate the university experience together.

Check us out on social media: @CUHomeroom

Website: *https://www.concordia.ca/students/homeroom.html*

PEOPLE

Dr. Laszlo Kalman

Undergraduate and Co-op Program Director

Office: SP-365.10

laszlo.kalman@concordia.ca

Nata Zazubovits

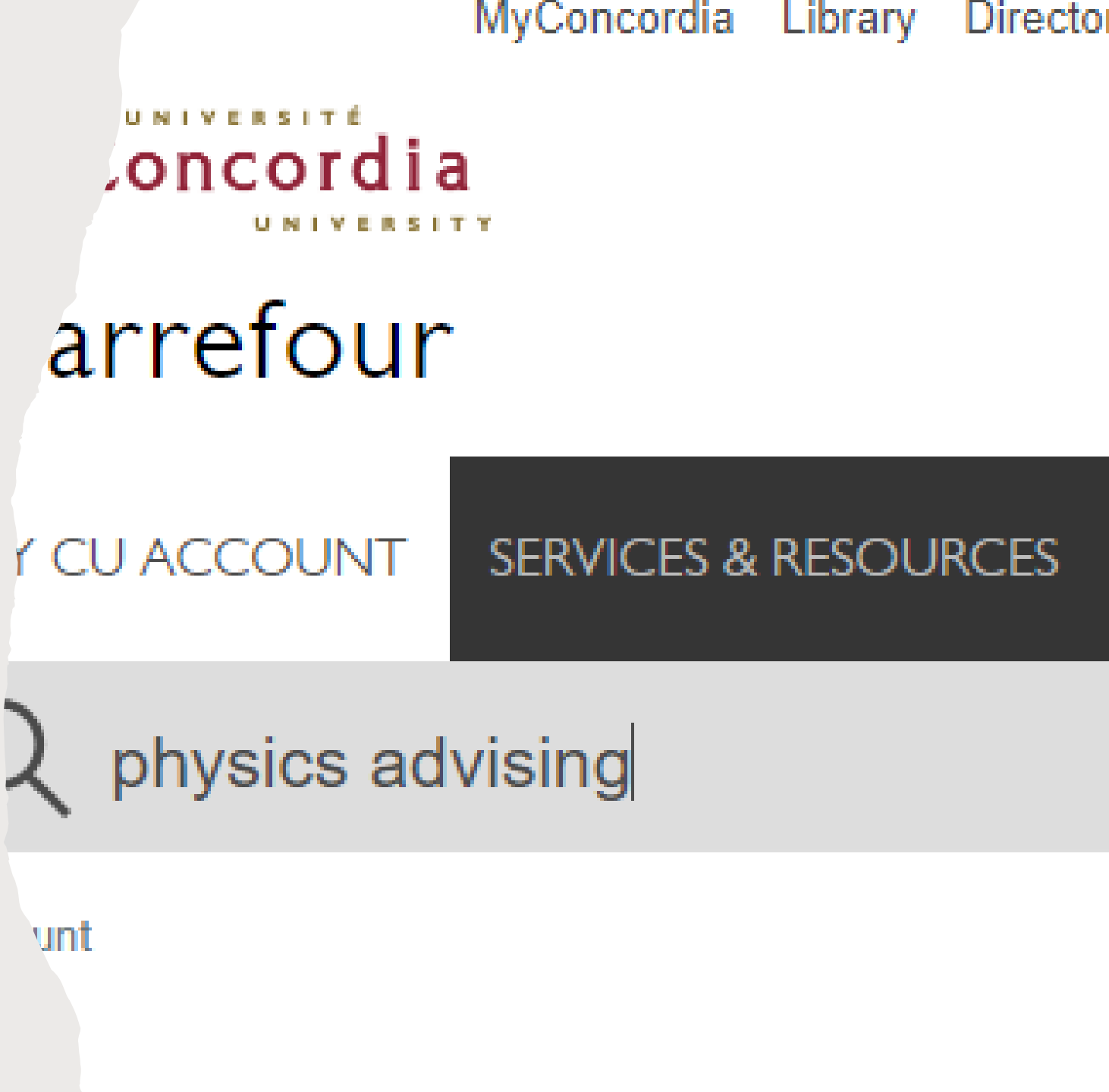
BSc Coordinator and Academic Advisor

Office: SP-367.01

physics-advising@concordia.ca

- BOOK a ZOOM meeting
- BOOK an IN-PERSON meeting

BOOK AN ADVISING APPOINTMENT



BOOK AN ADVISING APPOINTMENT

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
10 - 11AM		ZOOM		ZOOM
1 - 2PM			IN-PERSON	
2 - 3PM			ZOOM	
3 – 4PM	ZOOM	ZOOM		

BOOK a ZOOM meeting:
https://calendly.com/physics-advising/zoom-advising-15-min

BOOK an IN-PERSON meeting:
https://calendly.com/physics-advising/advising-in-person

BOOK AN ADVISING APPOINTMENT

Give us a call

514-848-2424, ext. 7369

Send us an email

new@concordia.ca

WELCOME CREW MENTORS

New students: we're here to help!

Need a hand figuring out your next steps? From tips on making friends to pointers for finding the best resources or contact for your needs — we're experienced student mentors to help you successfully transition into first year at Concordia!

THANK YOU

Q&A