

OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC

MEMORANDUM —	8888 University Drive, Burnaby, BC Canada V5A 1S6	TEL: 778.782.6654 FAX: 778.782.5876	avpacad@sfu.ca www.sfu.ca/vpacademic
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ATTENTION	Senate	DATE	January 10, 2020
FROM	Wade Parkhouse, Chair	PAGES	1/2
RE:	Senate Committee on Undergraduate Studies Course Changes (SCUS :	20-01)	Ra low

For information:

Acting under delegated authority at its meeting of January 9, 2020 SCUS approved the following curriculum revisions effective Fall 2020.

a. Faculty of Applied Sciences

1. School of Computing Science

- (i) Prerequisite change for CMPT 371
- (ii) Prerequisite and description change for CMPT 376W

b. Faculty of Arts and Social Sciences

1. Department of Psychology

(i) Prerequisite change for PSYC 425 and 426 adding an amendment to the Criminal Record Check section (Summer 2020)

c. Beedie School of Business

- (i) Equivalent statement change for BUS 200, 201, and 202
- (ii) Description and prerequisite change for BUS 336

d. Faculty of Science

1. Department of Biomedical Physiology and Kinesiology

- (i) Deletion of BPK 324, 417W,
- (ii) Equivalent statement change for BPK 325, 417
- (iii) Title and prerequisite change for BPK 443

2. Department of Chemistry

- (i) Prerequisite change for CHEM 364
- 3. Department of Earth Sciences
 - (i) Prerequisite change for EASC 401

4. Department of Mathematics

(i) Course number change for MATH 310

(ii) Prerequisite changes for MATH 314, MACM 416, MATH 418 and 462

(iii) Course number, title, description, prerequisite change and equivalency statement for MATH 461

(iv) Title, description and prerequisite change for MATH 348

5. Department of Molecular Biology and Biochemistry

(i) Prerequisite change for MBB 326

6. Department of Physics

- (i) Prerequisite change for PHYS 211, 255, 384, 385, 395, and 413
- (ii) Prerequisite and equivalency statement changes to 321

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Senate Docushare repository at <u>https://docushare.sfu.ca/dsweb/View/Collection-12682</u>.

SCUS 20-01a

		MMITTEE ON DUATE STUDIES		COURSE M	ODIFICATION FORM Page 1 of 1
COURSE SU	IBJECT	CMPT NUMBER	371		ommunications and rking (3)
TYPE OF CH	ANGES. I	Please type 'X' for the ap	propriate	erevision(s):	
Course number		Units		Prerequisite	\boxtimes
Title		Description		Equivalent Statement	

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using <u>underline</u>. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about</u> specific course components if changing equivalent statement(s).

Prerequisite: CMPT 225, (CMPT 150, ENSC 150 or CMPT 295) and (MATH 151 or MATH 150). MATH 154 or MATH 157 with a grade of at least B+ may be substituted for MATH 151 (MATH 150).

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

The reason CMPT 150/CMPT 295 is a prerequisite is a matter of history.

The learning outcomes for CMPT 295 do not match the learning incomes of CMPT 371.

	SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES					SE MC	DIFICATION FORM Page 1 of 1
COURSE SU	BJECT	СМРТ	NUMBER	376w		Technic Dynami	cal Writing and Group ics (3)
TYPE OF CH	ANGES. I	Please type 'X'	for the app	ropriate r	evision(s):		
Course number		Uni	ts		Prereq	uisite	\boxtimes
Title		Des	cription	\boxtimes		valent ement	

Covers professional writing in computing science, including format conventions and technical reports. <u>Attention is paid to examines group dynamics</u>, including team leadership, dispute resolution, <u>cognitive bias</u>, professional ethics and collaborative writing. <u>Also covers Research methods are also discussed</u>. The use of LaTeX and various <u>version control tools are emphasized</u>. Prerequisites: <u>CMPT 105W</u> and (CMPT 275 or CMPT 276). Students with credit for CMPT 376 may not take this course for further credit. Writing.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

CMPT 105W is added as an additional prerequisite, thereby making the two W Computing courses a consistent full year technical writing module in the department.



FACULTY OF ARTS AND SOCIAL SCIENCES

Office of the Dean

	8888 University Drive, Burnaby, BC Canada V5A 186	TEL 778.782.4416 FAX 778.782.3033	murraye@sfu.ca http://www.sfu.ca/fass.html
MEMORAND	UM		
ATTENTION	Wade Parkhouse, Chair Senate Committee on Undergraduate Studies	DATE 2 December 2019	~0C
FROM	Catherine Murray, Chair Faculty of Arts and Social Sciences Undergraduate Curriculum Committee	PAGES 3	CA / hurnay
RE:	Course Changes- Amendment to SCUS	19-57-8(i)- PSYC 425 and	PSYC 426

The Faculty of Arts and Social Sciences approved two new course proposals, PSYC 425 and PSYC 426 at the FASSUCC meeting of Thursday, October 17, 2019. However, the Associate Dean, acting under delegated authority approves the amendment to the Criminal Record Check sections for both courses, changing from "not required" to "required" at the request of the Department of Psychology. Participation will be subject to a criminal record check if the hosts/community partners requires it.

Please place these items on the agenda for the next SCUS meeting.

CM:ws

SCUS 20-01b

SFU course su		OMMITTEE ON Aduate studies		COURSE MODIFICA	TION FOR
COURSE SU					Page 1 of
	IBJECT	PSYC NUMBER	425	TITLE Field School I	
TYPE OF CH	ANGES.	Please type 'X' for the app	propriate re	vision(s):	
Course number		Units		Prerequisite 🛛	
Title		Description		Equivalent 🗆 Statement	
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from the Fie	eld Schoo cord Che	ts, PSYC 201, other prerequ ol Director <u>. Students may b</u> eck depending on the site o	e required to		
Fall, Spring, S	Summer	ND YEAR FOR CHANGES and year (please enter in			
Summer 20		e included)			
The field sc	hool bei	ing offered in Vanuatu in S		0 will have students workin ord Check needs to be adde	

FYPE OF CI	HANGES. Pleas	se type 'X' for the ap	propriate	revision(s)			
Course number		Units		Pre	requisite		
Title		Description			uivalent atement		
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expand. Plea epecific cou Prerequisit from the F <u>Criminal R</u>	ase review the rse componen te: 30 units, PS ^v ield School Dire ecord Check de	"Equivalency staten ts if changing equiva YC 201, other prereque ector <u>. Students may b</u>	nents" sec alent state uisites vary <u>pe required</u>	tion under ment(s). by topic of to success	Informatic fering, perr fully comple	mission ete a	
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SCUS 20-01c

SFU	SENATE COMMIT UNDERGRADUAT	State and a state of the second state of the s		COURSE MO	DDIFICATION FORM Page 1 of 1
COURSE SU	J BJECT B	US NUMBER	200	TITLE Busines	s Fundamentals
TYPE OF CH	ANGES. Plea	se type 'X' for the ap	propriat	e revision(s):	
Course number		Units		Prerequisite	
Title		Description		Equivalent Statement	

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using <u>underline</u>. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about</u> specific course components if changing equivalent statement(s).

Explore the fundamentals of modern business and organizational management. Working with case studies, students will build upon the basics of revenue, profits, contribution and costs, as well as integrate advanced aspects of business models, innovation, competitive advantage, core competence, and strategic analysis. Breadth-Social Sciences. <u>Students with credit for BUS 130 or 201 may not receive</u> <u>further credit for this course.</u>

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

BUS 200 & BUS 201 are very similar in terms of content (although BUS 201 has additional co-curricular components) and should be considered equivalent. Business students admitted to Beedie in their first year are required to take BUS 201 and BUS 200 is for students outside of the Business Major or in the Business Minor. BUS 130 was an earlier iteration of BUS 201 that is no longer offered.

SFU course su		BUS NUMBER	201	TITLE Introdu	Page 1 of 1 action to Business
TYPE OF CH	ANGES. I	Please type 'X' for the app	oropriate rev	ision(s):	
Course number		Units		Prerequisite	
Title		Description		Equivalent Statement	\boxtimes
indicate adde allows, drag expand. Pleas	ed or new the endpo se review	TION EDITS. Indicate de text using <u>underline</u> . If y pint of the text box to ma the "Equivalency statem <u>nents</u> if changing equiva	vou need to e ke it bigger, a ents" section	enter more text that as it will not auton n under <u>Informatio</u>	an the box natically

The management and operation of business, including the principles, concepts, ideas and tools used by managers. Management in the contemporary world of high technology is emphasized, featuring examples and cases involving high-tech firms. In addition, the course exposes students to international and local business issues, and to large companies as well as to smaller, entrepreneurial firms. Prerequisite: This course is only open to approved Business Administration majors admitted to the faculty through the Business Foundation Program - High School Stream. Students with credit for BUS 130 or <u>200</u> 202 or 301 may not receive further credit for this course, nor students with more than 30 units.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

BUS 200 & BUS 201 are very similar in terms of content (although BUS 201 has additional co-curricular components) and should be considered equivalent. Business students admitted to Beedie in their first year are required to take BUS 201 and BUS 200 is for students outside of the Business Major or in the Business Minor. BUS 202 has dissimilar content and focuses more on team learning, collaboration, and an experiential product development project, so we are removing that equivalency. BUS 301 was essentially a pilot for BUS 202 and was replaced by BUS 202 in Fall 2014 and was only offered twice (Fall 2013 & Spring 2014) to transfer students.

N F I II		MMITTEE ON DUATE STUDIES		COURSE	MODIFICATION FORM Page 1 of 1
COURSE SU	BJECT	BUS NUMBER	202		dations for Collaborative Environments
TYPE OF CH	ANGES. I	Please type 'X' for the ap	propriate r	evision(s):	
Course number		Units		Prerequisit	e 🗆
Title		Description		Equivaler	it 🖂

The demand for innovation in the context of a globalized workforce has raised the importance of developing collaborative skills and managing workplace diversity. Foundations for Collaborative Work Environments expands students' skills in effectively collaborating with others while participating in the Beedie Product Management Experience to achieve team and business objectives. Prerequisite: This course is only open to approved Business Administration majors, joint majors, or second degree students admitted to the faculty through the Business Foundation Program - Transfer Stream. Students with credit for BUS 130 or 201 or 301 may not receive further credit for this course.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

BUS 200 & BUS 201 are very similar in terms of content (although BUS 201 has additional co-curricular components) and should be considered equivalent. Business students admitted to Beedie in their first year are required to take BUS 201 and BUS 200 is for students outside of the Business Major or in the Business Minor. BUS 202 has dissimilar content and focuses more on team learning, collaboration, and an experiential product development project, so we are removing that equivalency. BUS 301 was essentially a pilot for BUS 202 and was replaced by BUS 202 in Fall 2014 and was only offered twice (Fall 2013 & Spring 2014) to transfer students. BUS 130 was an earlier iteration of BUS 201 and is no longer offered.

SFU	UNDERGRADUAT	TTEE ON TE STUDIES		Page
COURSE SU	J BJECT B	US NUMBER	R 336-4	TITLE Data and Decisions II
FYPE OF CH	ANGES. Plea	se type 'X' for the ap	propriate rev	ision(s):
Course number		Units		Prerequisite 🖄
Title		Description	\boxtimes	Equivalent 🗆 Statement
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SCUS 20-01d

SFU	SENATE COMMITTEE ON UNDERGRADUATE STUDIES	EXISTING COURSE DELETION FORM
COURSE SUBJECT	BPK NUMBER 324	TITLE Principles of Human Anatomy
RATIONALE (must be	included)	
The course has ne	ever been offered and there is not	a plan to offer it in the future.
	ND YEAR FOR CHANGES and year (enter in textbox) Fall 2020	0
PLEASE DO THE FOL		
Office (sfuca 2. Once you requirement 3. If more su modification	al@sfu.ca) for a program impact list. 11 have the program impact list, pleas ts. 12 ubstantial changes are required to pro 12 form.	course deletion form. Contact the Senate and Academic Services e review how deleting this course affects each program's ograms as a result of this deletion, please also submit a program equired in program requirements, please list those programs in the
		ication form submitted along with this motion. ion submitted along with this motion.
Hi Ryan,		
Here's the program	n impact list for BPK 324:	
Biomedical Physic	ology Minor	
Regards,		
	ogram Assistant nic Services Simon Fraser Unive Drive Burnaby, BC V5A 1S6	ersity
course delet	ease conduct a course impact analysi ion on course prerequisites. For inst ck on "deleting a course" and review	s, which reviews the effect of a course number change and/or tructions on how to do a course impact analysis, please visit <u>our</u> w Step 2. Course Impact Analysis.



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE SUBJECT	BPK	NUMBER	417W	TITLE	Obesity, Adipocyte Function and Weight Man

RATIONALE (must be included)

The course will not be offered it in the future. BPK will continue to offer BPK 417.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (enter in textbox)

Fall 2020

PLEASE DO THE FOLLOWING:

1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.

2. Once you have the program impact list, please review how deleting this course affects each program's requirements.

3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.

4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

- 1. Kinesiology Major and Honours Program change form submitted along with this motion.
- 2. Biomedical Physiology Major and Honours Program changes passed through SCUS July 4th, 2019.
- 3. Removal of equivalency statement within BPK 417 submitted along with this motion.

Hi Ryan,

Here's the program impact list for BPK 417W:

Biomedical Physiology Major Biomedical Physiology Honours Kinesiology Major Kinesiology Honours

Regards,

5. Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit <u>our</u> page and click on "deleting a course" and review Step 2. Course Impact Analysis.

COURSES	UBJECT BP	K NUMBER	325	TITLE Basic Human Anatomy
YPE OF CI	IANGES. Pleas	e type 'X' for the app	oropriate rev	rision(s):
Course number		Units		Prerequisite 🗆
Title		Description		Equivalent ⊠ Statement
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RATIONALE (must be included)

BPK 324 has never been offered and there is no plan to offer it in the future.

A motion to delete BPK 324 has been put forward.

SFU	SENATE COM UNDERGRAD	IMITTEE ON UATE STUDIES		COU	RSE MO	DIFICATION FORM Page 1 of 1
COURSE SI	UBJECT	BPK NUMBER	417	TITLE		r, Adipocyte Function eight Management
TYPE OF CH	IANGES. P	lease type 'X' for the ap	propriate re	vision(s):		
Course number		Units		Prere	quisite	
Title		Description			ivalent tement	
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	<u>rse compo</u>	nents in changing equiv	arent staten	nent(s).		
Prerequisit		0, 306, 340. Students wit			may not r	epeat this course for furt
specific cour					may not r	epeat this course for fur
Prerequisit credit. EFFECTIVE	tes: BPK 11		h credit for l		may not r	epeat this course for fur

BPK 417W is being deleted. BPK 417W has never been scheduled. KIN 417W was scheduled once in Spring 2012.

Series of	SFU		MMITTEE ON DUATE STUDIES			COUF	RSE MO	DIFICATI	ON FORM Page 1 of 1	
	COURSE SI	UBJECT	ВРК	NUMBER	443	TITLE	Advanc Prescri	ed Exercise ption]
	TYPE OF CH	HANGES. F	Please type '	X' for the app	oropriate rev	vision(s):				
	Course number		U	nits		Prere	quisite	\square		
	Title	\boxtimes	D	escription			ivalent ement			

Advanced Exercise Programming Prescription

Prerequisite: BPK 304W, 310 and 343 (one of which may be taken as a co-requisite).

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

Title: The term 'prescription' implies a one-time course of action, whereas the course discusses systematic long-term integrated program development. The term programming is also used within the course description.

Prerequisites: The prerequisites each provide assurance that the student is prepared for parts of the course and that the student is senior enough to benefit from the course. Students taking any one of the courses concurrently will be able to perform well. Adding this flexibility will allow more students to select this course as an option, as any of these third-year courses could be left until late in their program.

YPE O Course numbe Title /ORDI dicate llows, o xpand. <u>pecific</u> Quant Funda to aton molec 285, M	e T NG/DESCRI added or ne lrag the end Please revie	S. Please type 'X' Uni	its scription Indicate del <u>aderline</u> . If y t box to mal	ropriate revi	sion(s): Prerequisite Equivalen Statemen ged text using st nter more text tl	t 🔲 t .rike through	,
Course numbe Title /ORDI adicate llows, o xpand. <u>becific</u> Quant Funda to atom molec 285, M	e T NG/DESCRI added or ne lrag the end Please revie	Uni Des IPTION EDITS. New text using <u>ur</u> dpoint of the tex iew the "Equivalo	its scription Indicate del <u>aderline</u> . If y t box to mal	L L leted or chan you need to e	Prerequisite Equivalen Statemen ged text using st nter more text tl	t 🔲 t .rike through	ŧ,
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	ns and mole ules, symme ATH 232, a MATH 310	quantum mecha ecules: atomic st etry of atomic ar and MATH 251, a D. Students with	tructure, mo nd molecula all with a mi credit for Cl	olecular bond r orbitals. Pr nimum grad HEM 464 ma	ling, rotations an erequisite: CHEI e of C Recommo y not take this co	nd vibrations M 260 or PHY ended: <u>MATH</u>	s of YS
furthe	r credit. PH	YS 385 will be a	ccepted in li	ieu of CHEM	364.		
		AND YEAR FOR		textbox)			
Fall 20	ing, Summe						
ATION							

COURSE SU	J BJECT EA	SC NUMBER	401	TITLE Mineral Depos	its
YPE OF CH	ANGES. Pleas	se type 'X' for the app	propriate revi	ision(s):	
Course number		Units		Prerequisite 🛛	
Title		Description		Equivalent 🗆 Statement	
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SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

Page 2 of 2

RATIONALE (must be included)

- 1. Minor changes to EASC 401 content no longer require EASC 311 as a prerequisite.
- 2. Removal of the EASC 311 prerequisite provides greater access to EASC 401 for Earth Science majors.

SFU	UNDERGRAI	DUATE STUDIES				Page 1
COURSE SU	BJECT	MATH NUMBER	310	TITLE		ction to Ordinary tial Equations
TYPE OF CH.	ANGES.	Please type 'X' for the ap	propriate i	revision(s):		
Course number	ANGES.	Please type 'X' for the ap Units	propriate i		equisite	

indicate added or new text using <u>underline</u>. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about</u> specific course components if changing equivalent statement(s).

310

260

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

In the BC transfer guide our 310 gives 2xx credit at every other institution (for example, MATH 215 at UBC and 201 at UVIC). Most every math department in North America offers a first course in this topic in the second year. At SFU, ENSC students are advised to take it in their third semester. Some programmes teach this in first year.

We would like to bring SFU in line with the rest of BC by renumbering MATH 310 as MATH 260 without changing the content.

SFU	SENATE COMM UNDERGRADUA			COURSE MO	DIFICATION FO
COURSE S	UBJECT	MATH NUMBER	314		on to Fourier Methods and ferential Equations
TYPE OF CH	HANGES. Ple	ase type 'X' for the ap	propriate re	vision(s):	
Course number		Units		Prerequisite	X
Title		Description		Equivalent Statement	
indicate add allows, drag expand. Plea	led or new to the endpoint ase review t	ON EDITS. Indicate de ext using <u>underline</u> . If nt of the text box to ma he "Equivalency stater <u>ents</u> if changing equiv	you need to ake it bigger nents" sectio	enter more text tha , as it will not autom on under <u>Informatic</u>	n the box natically
diffusion v Symbolic a	wave and La and numeric); and one of	oundary and eigenvalu place/Poisson equatic cal computing, and gra f MATH 251 with a gra	ons. Polar an phics for PD	d spherical co-ordir Es. Prerequisite: <u>M</u>	ate systems. ATH 260 or

Fall 2020



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Page 2 of 2

RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

November 2016

do ono z o	UBJECT MAC	M NUMBER	416	TITLE Numerical Analysis II
TYPE OF CI	IANGES. Please	type 'X' for the ap	oropriate rev	rision(s):
Course number		Units		Prerequisite 🔀
Title		Description		Equivalent 🗆 Statement
allows, drag expand. Ple <u>specific cou</u> The nume parabolic	g the endpoint of ase review the " rse components prical solution of	f the text box to ma Equivalency stater if changing equiv Fordinary different cial equations will l	ake it bigger, nents" sectio alent statem tial equation	enter more text than the box as it will not automatically on under <u>Information about</u> ent(s). s and elliptic, hyperbolic and d. Prerequisite: <u>MATH 260 or</u>



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

Page 2 of 2

RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

COURSE SU	JBJECT	MATH	NUMBER	418	TITLE	Partial Differential Equation
TYPE OF CH	ANGES	Please type "	Y' for the apr	propriate revi	ision(s).	
Course number		5.7	nits			equisite 🕅
Title		D	escription			ivalent 🔲 tement
expand. Plea specific coun First-order functions, and transfi equations.	se review se compo linear ec the maxir orms. Hig Burgers'	the "Equiva ments if cha quations, the num princip her dimensi equation an	alency staten anging equiva e method of c ole, Green's fu onal eigenva d shock wav	hents" section alent stateme haracteristic inctions. The lue problems es. Prerequis	n under <u>In</u> ent(s). s. The wa heat equa s. An intro ite: MATH	not automatically <u>nformation about</u> ve equation. Harmonic ation. Distributions oduction to nonlinear I 260 or MATH he above prerequisite
	MATH 25					grades of at least A

Fall 2020



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

Page 2 of 2

RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

COURSE S	UBJECT	MATH	NUMBER	4 62	TITLE	Fluid Dynamic	CS
TYPE OF CH	IANGES. F	lease typ	e 'X' for the ap	propriate revi	ision(s):		
Course number			Units		Prere	quisite 🛛	
Title			Description		· · · · · · · · · · · · · · · · · · ·	ivalent 🗆 tement	
	rse compo		nomono, kinor	matica and a a	untinun of		- flow
Incompres and bound of MATH 3	ssible fluid lary layer 14, MATH	flow phe theory, po 418, PHY	otential flow, w 7S 384. An alte	vater waves. A rnative to the	lerodynar above pr	f motion, viscou nics. Prerequisi erequisite is bo st B+. Quantitat	ite: one th of
Incompres and bound of MATH 3	ssible fluid lary layer 14, MATH	flow phe theory, po 418, PHY	otential flow, w 7S 384. An alte	vater waves. A rnative to the	lerodynar above pr	nics. Prerequisi erequisite is bo	ite: one th of
Incompres and bound of MATH 3	ssible fluid lary layer 14, MATH	flow phe theory, po 418, PHY	otential flow, w 7S 384. An alte	vater waves. A rnative to the	lerodynar above pr	nics. Prerequisi erequisite is bo	ite: one th of



Page 2 of 2

RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

SFU	UNDERGRADUA	TTEE ON TE STUDIES					Page 1 c
COURSE SU	J BJECT M	IATH NUMBER	461	TITLE	Continu Models	ious Math	ematical
TYPE OF CH	ANGES. Plea	se type 'X' for the ap	propriate rev	vision(s):			
Course number	\boxtimes	Units		Prere	quisite	\boxtimes	
Title	\boxtimes	Description	\boxtimes		ivalent tement	X	
specific cour 461 360	se review th	e "Equivalency staten <u>nts</u> if changing equiva	nents" section	n under <mark>In</mark>	<u>iformatio</u>	natically on about	
461 360 Continuous 461 360 (3 Formulatio models. Ap	se review th <u>se componen</u> s Mathematic) on, analysis a plications m	e "Equivalency staten ats if changing equiva cal Models <u>Modeling</u> nd numerical solution ay be selected from t	nents" section alent stateme with Ordinar n <u>simulation</u> opics in phys	n under <u>In</u> ent(s). - <u>ry Differen</u> of continu ics, biolog	ntial Equa nous math y, engine	ations MA hematical eering and	
461 360 Continuous 461 360 (3 Formulatio models. Ap economics. 316, MATH 251 and M.	se review th se component s Mathematic) on, analysis a plications m Prerequisite (418, PHYS (ATH 310, bo	e "Equivalency staten <u>ats</u> if changing equiva cal Models- <u>Modeling</u> nd numerical solutio	ments" section alent stateme with Ordinar opics in phys <u>AMATH 260.</u> the above pr east B+. Stude	n under In ent(s). of continu ics, biolog and one of cerequisite ents with c	ntial Equa nous math y, engine f <u>MATH 3</u> e is both credit for	n about ations MA hematical eering and 314, MACM of MATH MATH 36	4
461 360 Continuous 461 360 (3 Formulatio models. Ap economics. 316, MATH 251 and M.	se review th se component s Mathematic) on, analysis a plications m Prerequisite (418, PHYS (ATH 310, bo	e "Equivalency staten ats if changing equiva cal Models <u>Modeling</u> nd numerical solution ay be selected from t e: MATH 310 <u>251 and</u> <u>384</u> . An alternative to th with grades of at le	ments" section alent stateme with Ordinar opics in phys <u>AMATH 260.</u> the above pr east B+. Stude	n under In ent(s). of continu ics, biolog and one of cerequisite ents with c	ntial Equa nous math y, engine f <u>MATH 3</u> e is both credit for	n about ations MA hematical eering and 314, MACM of MATH MATH 36	4

EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)



Page 2 of 2

Summer 2020

RATIONALE (must be included)

In conjunction with moving MATH 310 to MATH 260 we are modifying one the classes that required 310 required. The removal of additional upper division prerequisites reflects how the class has been recently taught. These changes will make the class more accessible to both major and minor students.

COURSE S	SUBJECT	ATH NUMBER	348	TITLE Probabilistic Models in Operations Research
YPE OF C	HANGES. Ple	ase type 'X' for the ap	propriate r	evision(s):
Course number		Units		Prerequisite 🛛
Title	\boxtimes	Description	\boxtimes	Equivalent 🗆 Statement
VORDING/	led or new to		you need to	remer more lexi man the hoy
dicate adc lows, drag pand. Plea pecific cou	ase review th <u>rse compone</u>	t of the text box to ma e "Equivalency staten <u>nts</u> if changing equiva	ike it bigge nents" sect alent stater	r, as it will not automatically on under <u>Information about</u>
ndicate add llows, drag xpand. Plea <u>pecific cou</u> Probabili	g the endpoin ase review th <u>rse compone</u> stic Models	t of the text box to ma e "Equivalency staten	ike it bigge nents" sect alent stater	r, as it will not automatically on under <u>Information about</u>

simulation. Prerequisite: STAT 270 and (MATH 240 or MATH 232). Pre-/Co-

EFFECTIVE TERM AND YEAR FOR CHANGES

requisite: MATH 308. Quantitative.

Fall, Spring, Summer and year (please enter in textbox)



COURSE MODIFICATION FORM

Fall 2020

Page 2 of 2

RATIONALE (must be included)

In conjunction with moving MATH 310 to MATH 260 we are modifying one the classes that required 310 required. The removal of additional upper division prerequisites reflects how the class has been recently taught. These changes will make the class more accessible to both major and minor students.

COURSE SU	BJECT	MBB NUMBER	326	TITLE Introduction to the immune system
TYPE OF CH	IANGES. I	Please type 'X' for the ap	propriate	revision(s):
Course 1umber		Units		Prerequisite X
ſitle		Description		Equivalent 🗆 Statement
ndicate add allows, drag expand. Plea specific cour	ed or new the endp se review se compo	v text using <u>underline</u> . If oint of the text box to m v the "Equivalency state onents if changing equiv	you need ake it bigg ments" sec valent state	hanged text using strike through , to enter more text than the box er, as it will not automatically ttion under <u>Information about</u>
ndicate add allows, drag expand. Plea specific coun Introducti system pro the functio responses function o	ed or new the endp ase review se compo- on to the otects aga on of inna , including f T and B	v text using <u>underline</u> . If oint of the text box to m v the "Equivalency state onents if changing equiv structure and function of inst microbial infections te immune cells, recepto g the organization of lym cells, and antibodies. Stu	f you need ake it bigg ments" sec valent state of the imm s. Innate in ors and con ophoid org udents wit	hanged text using strike through , to enter more text than the box er, as it will not automatically ction under <u>Information about</u> ement(s). une system and how this nmune responses, including nplement. Adaptive immune gans, development and h credit for HSCI 426, MBB
ndicate add allows, drag expand. Plea specific coun Introducti system pro the functio responses function o	ed or new the endp ase review se compo- on to the otects aga on of inna , including f T and B CI 326 ma	v text using <u>underline</u> . If oint of the text box to m v the "Equivalency states onents if changing equiv structure and function of the inmune cells, receptor g the organization of lyn cells, and antibodies. Stu ay not take this course for	f you need ake it bigg ments" sec valent state of the imm s. Innate in ors and con ophoid org udents wit	hanged text using strike through , to enter more text than the box er, as it will not automatically ction under <u>Information about</u> ement(s). une system and how this nmune responses, including nplement. Adaptive immune gans, development and

Fall 2020

RATIONALE (must be included)

A minimum grade for the MBB 231 prerequisite has been added consistent with other MBB UD course prerequisites.

100vernber 2016

	ENATE COMMITTEE O INDERGRADUATE STU			COURSE MOE	DIFICATION FORM Page 1 of 1
COURSE SUI	BJECT PHYS	NUMBER	211	TITLE Interme	ediate Mechanics
TYPE OF CHA	NGES. Please ty	pe 'X' for the ap	propriate rev	ision(s):	
Course number		Units		Prerequisite	
Title		Description		Equivalent Statement	

An intermediate mechanics course covering kinematics, dynamics, calculus of variations and Lagrange's equations, non-inertial reference frames, central forces and orbits, and rigid body motion. Prerequisite: PHYS 126 or 121 or 141, with a minimum grade of C-, (or PHYS 102, with a minimum grade of B); MATH 251; MATH 232 or MATH 240; PHYS 255 or ENSC 380. All prerequisite courses require a minimum grade of C-. Corequisite: MATH 251; MATH 232 or 240. Recommended corequisite: MATH 260 or MATH 310-and PHYS 255. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

Rationale: Switching to spring to ease student workload allows changes to prereqs to better prepare students for this challenging course.

	SFU		MMITTEE ON DUATE STUDII	ES		COURSE MOD	DIFICATION FORM Page 1 of 1
_	COURSE S	UBJECT	PHYS	NUMBER	255	TITLE Vibratio	ons and Waves
	TYPE OF CH	IANGES.	Please type	e 'X' for the app	oropriate rev	ision(s):	
	Course number			Units		Prerequisite	
	Title			Description		Equivalent Statement	

The physics of vibrations and waves. Topics include periodic motion, including free and forced oscillations, coupled oscillators, normal modes, and waves in one and higher dimensions. Prerequisite: PHYS 126 or 121 or 141, with a minimum **grade of** C-, grade; or PHYS-101 and 102, with a **minimum** grade of B. Corequisite: MATH 251; MATH 232 or 240. Recommended **corequisite**concurrent: PHYS-211 and MATH 310260 or MATH 310. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

Changed from Recommended concurrent to Recommended Corequisite to be consistent with other entries. PHYS 211 is no longer taught the same semester, so it is not useful to recommend it as a corequisite. PHYS 101 is a required prerequisite for PHYS 102 so it is not necessary to require it here. Change of number of MATH 310 -> MATH 260.

SFU COURSE S		PHYS NUMBER	384	TITLE Method I	Page 1 of ls of Theoretical Phys
TYPE OF CH	IANGES. P	lease type 'X' for the app	propriate re	evision(s):	
Course number		Units		Prerequisite	
m+.1		Description		Equivalent	
indicate add allows, drag expand. Plea	ed or new the endpo ase review	TION EDITS. Indicate de text using <u>underline</u> . If int of the text box to ma the "Equivalency staten	you need to ike it bigger nents" sectio	Statement anged text using str enter more text tha ; as it will not auton on under <u>Informatio</u>	ike through, an the box natically
WORDING/ indicate add allows, drag expand. Plea specific cour Applicatio eigenvalue MATH 26	ed or new the endpo ase review rse compor- ns of math problems 0 or MATH	TION EDITS. Indicate de text using <u>underline</u> . If jint of the text box to ma	you need to ake it bigger nents" sectionalent statem ysics, different ations. Prere 255 or ENS	Statement anged text using str enter more text that as it will not autom on under <u>Information</u> nent(s). ential equations of p equisite: MATH 252 C 320 ,. All prerequ	ike through, an the box natically on about ohysics, or 254;

Change of number of MATH 310 -> MATH 260. Changes to the schedule allow us to make PHYS 211 a required prerequisite, which will better prepare students for this course.

SFU		MMITTEE ON DUATE STUDIES		COURSE MOD		FORM age 1 of 1
COURSE SU	UBJECT	PHYS NUMBER	385	TITLE Quantu	m Mechanics	
TYPE OF CH	IANGES.	Please type 'X' for the ap	propriate rev	rision(s):		
Course number		Units		Prerequisite	\boxtimes	
Title		Description		Equivalent Statement		

Wave mechanics and the Schroedinger equation, the harmonic oscillator, introduction to Dirac notation, angular momentum and spin, the hydrogen atom, atomic structure, timeindependent perturbation theory, atomic spectra, and applications. Prerequisite: MATH 252 or 254; PHYS 285 or ENSC 380 or CHEM 260. All prerequisite courses require with a minimum grade of C-. Recommended prerequisitesCo-requisite: MATH 260 or MATH 310; PHYS 211.; MATH 310. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260. PHYS 211 is not a required prerequisite, but will help prepare students for this course.

		ENATE COMMITTEE C INDERGRADUATE STU	Contractor and Contractor		COURSE MOE	DIFICATION FORM Page 1 of 1
_	COURSE SUI	BJECT PHYS	NUMBER	395	TITLE Comput	tational Physics
-	TYPE OF CHA	NGES. Please ty	vpe 'X' for the ap	propriate rev	ision(s):	
	Course number		Units		Prerequisite	\boxtimes
	Title		Description		Equivalent Statement	

Computer-based approaches to solving complex physical problems. Includes topics such as Monte-Carlo and molecular dynamics techniques applied to thermal properties of materials; dynamical behavior of systems, including chaotic motion; methods for ground state determination and optimization, including Newton-Raphson, simulated annealing, neural nets, and genetic algorithms: symplectic methods; and analysis of numerical data. Prerequisite: **MATH 260 or** MATH 310;; PHYS 255;; CMPT 102, 120; or equivalent;. **All prerequisite courses require with** a minimum grade of C-. Recommended: PHYS 344 or equivalent. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260. We are changing our computing requirement to CMPT 120 only. PHYS 344 is no longer recommended.

SFU		DMMITTEE ON DUATE STUDIES		COURSE MOI	DIFICATION FORM Page 1 of 1	
 COURSE S	UBJECT	PHYS NUMBER	R 413	TITLE Advanc	ed Mechanics	
TYPE OF CI	HANGES.	Please type 'X' for the ap	opropria	te revision(s):		
Course number		Units		Prerequisite	\boxtimes	
Title		Description		Equivalent Statement		

Central forces, rigid body motion, small oscillations. Lagrangian and Hamiltonian formulations of mechanics. Prerequisite: PHYS 384, with a minimum grade of C- or permission of the department. Non-physics majors may enter with MATH 252; MATH 260 or MATH 310-and; PHYS 211;. All prerequisite courses require with a minimum grade of C-. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260.

		MMITTEE ON DUATE STUDIES			COURSE	MODIFICA	TION FORM Page 1 of 1
COURSE SU	BJECT	PHYS	NUMBER	321		termediate El agnetism	ectricity and
TYPE OF CH	ANGES. F	Please type 'X	' for the app	ropriate	revision(s):		
Course number		Un	its		Prerequi	site 🖂	
Title		De	scription		Equival Statem		

Development and application of Maxwell's equations in vector differential form. Notation and theorems of vector calculus; electric charge, fields, potentials, capacitance and field energy; conductors; methods for solving electrostatic problems; electric fields in matter; electrical current and the magnetic field; Ampere's law and the vector potential; magnetic fields in matter; electromotive force, electrical resistance, Faraday's law and inductance; Maxwell's correction to Ampere's law and electromagnetic waves. Prerequisite: PHYS 121 or 126 or 141 (or PHYS 102, with a minimum grade of B); MATH 252 or 254; MATH 260 or MATH 310. All prerequisite courses require a minimum grade of C-, unless specified. Students with credit for PHYS 221 may not take this course for further credit. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (please enter in textbox)

Fall 2020

RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260. PHYS 221 is no longer offered. Grade requirement added explicitly to be consistent with other courses.



MEMO

TO:	Kris Nordgren, Assistant Registrar, Senate & Academic Services
FROM:	Barbara Frisken, Professor and Undergraduate Chair, Department of Physics
CC:	David Hik, Professor and Associate Dean of Science
RE: DATE:	Undergraduate Course changes for the Department of Physics December 13, 2019

I recently submitted a number of course change forms for PHYS courses. One of the changes we made was motivated by a change in course numbering for MATH 310 to MATH 260.

I have been advised that we should change the wording in the prerequisite lists in order to leave the option for students to satisfy the prerequisite requirement with MATH 310 for about 5 years.

This impacts course change forms for the following courses:

PHYS 211 PHYS 255 PHYS 321 PHYS 384 PHYS 385 PHYS 395 PHYS 413

Could your office please change the prerequisite or corequisite from MATH 260 to **MATH 260** or **MATH 310**. We will need to remove this after the appropriate time. If possible, could you program the deletion of or **MATH 310** after an appropriate time so that this happens automatically?

Thank you, Barbara