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MEMORANDUM

ATTENTION

Senate

FROM

Wade Parkhouse, Chair

Senate Committee on

Undergraduate Studies

RE:

Course Changes (SCUS 20-01)

DATE

January 10, 2020

PAGES 1/2

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 https://docushare.sfu.ca/dsweb/View/Collection-12682.



PT NUMBER 37	1 TITLE	Data Communications and Networking (3)				
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Units \square	Prere	equisite 🗵				
Description \square		nivalent 🗌 tement				
using <u>underline</u> . If you n f the text box to make it l 'Equivalency statements'	eed to enter mor pigger, as it will r section under <u>Ir</u>	re text than the box not automatically				
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).						
	ox)					
ıded)						
ЛРТ 295 is a prerequisite	is a matter of hi	story.				
r CMPT 295 do not matc	n the learning inc	comes of CMPT 371.				
	Description Description Description Description EDITS. Indicate deleted using underline. If you not five text box to make it less if changing equivalent so if changing equivalent so to make it less if changing equivalent so the matter of the text box to make it less if changing equivalent so if changing equivalent so the matter of t	Description				



COURSE SUB	COURSE SUBJECT CMPT		NUMBER	376w	TITLE	Technic Dynam	cal Writing and Group ics (3)		
TYPE OF CHAI	NGES. F	Please type 'X	' for the anr	ronriate r	evision(s):				
Course number		Un			Prerequisite 🗵		\boxtimes		
Title		De	scription	\boxtimes		ivalent tement			
indicate added allows, drag the expand. Please specific course Covers profestechnical repleadership, diwriting. Also version contri	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). Covers professional writing in computing science, including format conventions and technical reports. Attention is paid to examines group dynamics, including team leadership, dispute resolution, cognitive bias, professional ethics and collaborative writing. Also covers Research methods are also discussed. The use of LaTeX and various version control tools are emphasized. Prerequisites: CMPT 105W and (CMPT 275 or CMPT 276). Students with credit for CMPT 376 may not take this course for further credit Writing								
EFFECTIVE TE Fall, Spring, Sur Fall 2020	mmer a	nd year (plea		textbox)					
CMPT 105W i							W Computing		



FACULTY OF ARTS AND SOCIAL SCIENCES

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MEMORANDUM -

ATTENTION

Wade Parkhouse, Chair

DATE 2 December 2019

Senate Committee on

Undergraduate Studies

Catherine Murray, Chair

PAGES 3

Faculty of Arts and Social Sciences

Undergraduate Curriculum Committee

FROM

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



TYPE OF CH	ANGES. Ple	ase type 'X' for the app	ronriate	revision(s).
Course		Units		
number	Ш	Offics		Prerequisite 🛛
Title		Description		Equivalent Statement
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	e: 30 units, P			y by topic offering, permission
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from the Fig Criminal Re	e: 30 units, P eld School Di cord Check c	rector. Students may be	e require	d to successfully complete a
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COURSE SU	BJECT P	SYC NUMBER	426	TITLE Field School II
TYPE OF CHA	ANGES. Plea	se type 'X' for the app	propriate re	vision(s):
Course number		Units		Prerequisite 🗵
Title		Description		Equivalent Statement
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from the Fie	ld School Dir ord Check d	ector. Students may b	e required t	by topic offering, permission so successfully complete a chool and the community
		/EAR FOR CHANGES year (please enter in		
Summer 20 RATIONALE		cluded)		
The field scl children and	nool being o d vulnerable	ffered in Vanuatu in Sepopulations so the C	Summer 20 Criminal Rec	20 will have students working with cord Check needs to be added.



COURSE SU	Ј ВЈЕСТ В	US NUMBER	200	TITLE Business Fundamentals			
TYPE OF CH	ANGES. Plea	ase type 'X' for the appi	ropriate	revision(s):			
Course number		Units		Prerequisite \square			
Title		Description		Equivalent ⊠ Statement			
indicate add allows, drag expand. Plea	ed or new te the endpoin se review th	xt using <u>underline</u> . If yo t of the text box to mak	ou need te it bigg ents" sed	changed text using strike through, to enter more text than the box er, as it will not automatically ction under Information about ement(s).			
Working w contribution innovation Breadth-So	rith case stud on and costs, , competitiv	dies, students will build as well as integrate ad e advantage, core comp s. <u>Students with credit</u>	d upon th lvanced petence,	ganizational management. ne basics of revenue, profits, aspects of business models, and strategic analysis. 130 or 201 may not receive			
	EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)						
RATIONALE	(must be in	cluded)					
co-curricul admitted to students ou	ar compone Beedie in t utside of the	nts) and should be con heir first year are requ	sidered ired to to he Busin	nt (although BUS 201 has additional equivalent. Business students ake BUS 201 and BUS 200 is for ess Minor. BUS 130 was an earlier			



COURSE SU	вјест В	US NUMBER	201	TITLE Introduction to Business				
ТҮРЕ ОГ СН.	ANGES. Plea	se type 'X' for the app	ropriat	e revision(s):				
Course number		Units		Prerequisite				
Title		Description		Equivalent ⊠ Statement				
allows, drag to expand. Pleas specific cours The managideas and to technology In addition, and to large the faculty Students will students will be specificated as a second seco	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). 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 200 202 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 inc	luded)						
co-curricula admitted to students ou content and development for BUS 202	ar componer Beedie in the tside of the la focuses mo nt project, so and was re	nts) and should be contein first year are requibusiness Major or in the conteam learning, conteam the content the	isidered tired to the Busi collabora t equiva	ent (although BUS 201 has additional dequivalent. Business students take BUS 201 and BUS 200 is for ness Minor. BUS 202 has dissimilar ation, and an experiential product alency. BUS 301 was essentially a pilot 14 and was only offered twice (Fall				



COURSE SUBJ	ECT BUS	NUMBER	202	TITLE	Foundations for Collabora Work Environments	tive
TYPE OF CHAN	GES. Please ty	pe 'X' for the app	ropriate revi	sion(s):		
Course number		Units		Prere	equisite 🗆	
Title		Description		_	ivalent ⊠ tement	
indicate added of allows, drag the expand. Please is specific course of The demand for importance of Foundations for effectively coll. Management of This course is or second deg Foundation Programment of Foundation Programment	or new text using endpoint of the review the "Equation of the components are students are cogram - Trans	ng underline. If ye text box to ma uivalency statem changing equivant the context of llaborative skills while particularly the context of others while particularly the particular and pproved Busines dmitted to the fa	you need to e ke it bigger, a lents" section lent stateme a globalized v and managin ments expan articipating in business ob as Administra culty through	nter more is it will no under In it will no under In it will not it workforce in gworkp ds studen in the Beech jectives. It is in majon the Busi	lace diversity. ats' skills in die Product Prerequisite: ors, joint majors,	
EFFECTIVE TEFFall, Spring, Sun			textbox)			
RATIONALE (m	ust be included	d)				
co-curricular of admitted to Be students outsi content and fo development programment programmers and sor BUS 202 are solvents.	components) as eedie in their fi de of the Busin cuses more on project, so we a nd was replace (2014) to trans	nd should be cor rst year are requ less Major or in t team learning, c are removing tha d by BUS 202 in	nsidered equi nired to take l the Business l collaboration, t equivalency Fall 2014 and	valent. Bu BUS 201 a Minor. BU and an e BUS 301 d was only	BUS 201 has additional usiness students and BUS 200 is for US 202 has dissimilar experiential product 1 was essentially a pilot y offered twice (Fall teration of BUS 201 and	



COURSE SU	BJECT E	BUS NUMBER	336-4	TITLE Data and Decisions II				
TYPE OF CHA	ANGES. Ple	ase type 'X' for the ap	propriate re	vision(s):				
Course number		Units		Prerequisite 🔼				
Title		Description		Equivalent Statement				
indicate adde allows, drag t expand. Pleas	d or new to he endpoin e review th	ext using <u>underline</u> . If it of the text box to ma	you need to ake it bigger, nents" sectio	anged text using strike through, enter more text than the box, as it will not automatically on under Information about tent(s).				
quantitative Beginning v course mov introductio	This course is an extension of <u>BUEC BUS</u> 232. It develops and applies the quantitative models that are most directly relevant to business decisions. Beginning with material on multiple regression and forecasting modeling, the course moves on to decision analysis, business simulation, quality control, and an introduction to optimization. Prerequisite: MATH 150, MATH 151, MATH 154, or 157; <u>BUEC BUS</u> 232 or STAT 270; 45 units. Quantitative.							
	EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)							
RATIONALE	(must be in	l cluded)						
Business an directly equ The descrip	d changed ivalent. tion for BU	to BUS 232 Data and I	Decisions I (4	cisions I (4) was integrated into 4). BUEC 232 and BUS 232 are nd should be updated to reflect that				



EXISTING COURSE DELETION FORM

1 OF 1 PAGE

COURSE SUBJECT	ВРК	NUMBER 324	TITLE Principles of Human Anatomy
RATIONALE (must b	oe included)		
The course has r	never been offe	red and there is not a pl	lan to offer it in the future.
EFFECTIVE TERM	AND YEAR FOR C	HANGES	
Fall, Spring, Summe	er and year (enter i	n textbox) Fall 2020	
PLEASE DO THE FO	DLLOWING:		
		t list along with your cou	rse deletion form. Contact the Senate and Academic Services

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

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

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

- 1. Biomedical Physiology Minor program modification form submitted along with this motion.
- 2. BPK 325 course equivalent statement modification submitted along with this motion.

Hi Ryan,

Here's the program impact list for BPK 324:

Biomedical Physiology Minor

requirements.

box below:

modification form.

Regards,

Annie Young | Program Assistant Senate & Academic Services | Simon Fraser University 8888 University Drive | Burnaby, BC V5A 1S6 778-782-3792

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 our page and click on "deleting a course" and review Step 2. Course Impact Analysis.





Biomedical Physiology Honours

Kinesiology Major Kinesiology Honours

Regards,

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

1 OF 1 PAGE

COURSE SUBJECT	BPK	NUMBER	417W	TITLE Obesity, Adipocyte Function and Weight Mana
RATIONALE (must b	e included)			
		t in the fu	ture. BPK will	continue to offer BPK 417.
EFFECTIVE TERM A Fall, Spring, Summe PLEASE DO THE FO	r and year (enter i		Fall 2020	
 Attach a Office (sfu Once yo requiremen If more modification 	program impact cal@sfu.ca) for a pu have the programs. substantial changes of form.	n program in gram impact ges are requ	impact list. It list, please reviewing to program	see deletion form. Contact the Senate and Academic Services ew how deleting this course affects each program's as as a result of this deletion, please also submit a program d in program requirements, please list those programs in the
2. Biomedical Ph	nysiology Majo	or and Hon	nours Program	m submitted along with this motion. changes passed through SCUS July 4th, 2019. submitted along with this motion.
Hi Ryan,				
Here's the progra	ım impact list t	for BPK 4	17W:	
Biomedical Phys	siology Major			

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 our page and click on "deleting a course" and review Step 2. Course Impact Analysis.



COURSE SUBJEC	T BPK NUMBER	325	TITLE Basic Human Anatomy					
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):								
Course [number	Units		Prerequisite					
Title [Description		Equivalent 🛮 Statement					
indicate added or allows, drag the er expand. Please respecific course con	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). Students with credit for BPK 324 or BPK 326 may not take this course for further credit.							
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox) Fall 2020								
RATIONALE (mus	RATIONALE (must be included)							
BPK 324 has nev	ver been offered and there is	s no plan to of	ffer it in the future.					
A motion to dele	ete BPK 324 has been put for	ward.						



COURSE SUBJE	СТ	ВРК	NUMBER	417	TITLE		dipocyte Fur ht Manageme	
TYPE OF CHANG	GES. P	lease type 'X'	for the app	ropriate revi	sion(s):			
Course number		Un	its		Prere	quisite 🗆]	
Title		Des	scription			ivalent 🛭 tement]	
indicate added o allows, drag the expand. Please r specific course c	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). Prerequisites: BPK 110, 306, 340. Students with credit for BPK 417 W may not repeat this course for further							
EFFECTIVE TER				textbox)				
Fall 2020 RATIONALE (m	ust be	included)						
BPK 417W is l scheduled on			〈 417W has	never been	schedule	d. KIN 417V	V was	



COURSE SUBJEC	СТ ВРК	NUMBER	443	TITLE	Advance Prescrip	ed Exercise ption			
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):									
Course [number		Units		Prere	equisite				
Title	\boxtimes	Description		_	uivalent atement				
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). 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)									
RATIONALE (must be included) Title: The term 'prescription' implies a one-time course of action, whereas the course discusses systematic long torm integrated program development. The term									
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.									





COURSE SU	COURSE SUBJECT CHEM NUMBER 364 TITLE Quantum Chemistry									
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):										
Course number	1907 - 1908 - 1									
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 specific course components</u> if changing equivalent statement(s).										
Quantum Chemistry CHEM 364 (3) Fundamentals of quantum mechanics and its principal results and techniques as applied to atoms and molecules: atomic structure, molecular bonding, rotations and vibrations of molecules, symmetry of atomic and molecular orbitals. Prerequisite: CHEM 260 or PHYS 285, MATH 232, and MATH 251, all with a minimum grade of C Recommended: MATH 260 or MATH 310. Students with credit for CHEM 464 may not take this course for further credit. PHYS 385 will be accepted in lieu of CHEM 364.										
Fall, Spring, S		YEAR FOR CHANGES I year (please enter in								
Fall 2020										
	-									
MATH 310	MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.									





COURSE SUBJECT EASC NUMBER 401 TITLE Mineral Deposits									
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):									
Course number		Units		Prerequisite ⊠					
Title		Description		Equivalent \square Statement					
indicate adde allows, drag t expand. Pleas	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 specific course components</u> if changing equivalent statement(s).								
deposits; th	e occurren	ce and exploitation of	industrial an	description of classic ore d non-metallic minerals. ith a grade of C- or better.					
		YEAR FOR CHANGES l year (please enter in							





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 401for Earth Science majors.



COURSE SUI	зјест [МАТН	NUMBER	310	TITLE	Introduction to Ordina Differential Equations	ry
TYPE OF CHA	NGES. Pl	ease type 'X'	for the app	propriate revi	ision(s):		
Course number	\boxtimes	Un	its		Prere	equisite \square	
Title		Des	scription			ivalent 🗆 tement	
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s).							
310 260							
EFFECTIVE T Fall, Spring, So Fall 2020 RATIONALE (ummer ai	nd year (plea					
at UBC and 20 topic in the se	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 lik without chan			ith the rest o	f BC by renum	bering M <i>f</i>	ATH 310 as MATH 260	



Page 1 of 2

COURSE SUBJECT		МАТН	NUMBER	314	TITLE		to Fourier Method ential Equations	ls and
TYPE OF CHA	NGES. P	Please type 'X'	for the app	oropriate revi	ision(s):			
Course number		Uni	its		Prere	quisite [X	
Title		Description				ivalent [tement		
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, ndicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). Fourier series, ODE boundary and eigenvalue problems. Separation of variables for the diffusion wave and Laplace/Poisson equations. Polar and spherical co-ordinate systems. Symbolic and numerical computing, and graphics for PDEs. Prerequisite: MATH 260 or MATH 310; and one of MATH 251 with a grade of B+, or one of MATH 252 or 254. Quantitative.								
EFFECTIVE TI	DM AN	ID VEAD FOR	CHANCES					_

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

Fall 2020



Page 2 of 2

RATIONALE (must be included)

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



Page 1 of 2

COURSE SUBJ	ECT	MACM	NUMBER	416	TITLE	Numerical Analysis II			
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):									
Course number		Uni	ts		Prere	quisite \square			
Title		Description		1.7. I	ivalent □ tement				
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). The numerical solution of ordinary differential equations and elliptic, hyperbolic and parabolic partial differential equations will be considered. Prerequisite: (MATH 260 or MATH 310) and MACM 316. Quantitative.						e text than the box not automatically aformation about tic, hyperbolic and			
EFFECTIVE TEI	EFFECTIVE TERM AND YEAR FOR CHANGES								

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

Fall 2020

November 2016



Page 2 of 2

RATIONALE (must be included)

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





EFFECTIVE TERM AND YEAR FOR CHANGES

Fall 2020

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

COURSE SUBJECT	MATH NUMBER	418	TITLE Partial Differential Equations
TYPE OF CHANGES.	Please type 'X' for the app	oropriate rev	ision(s):
Course \square number	Units		Prerequisite \square
Title	Description	\boxtimes	Equivalent Statement
indicate added or new allows, drag the endpexpand. Please review specific course composition. First-order linear efunctions, the maximand transforms. His equations. Burgers 310) and one of MA	w text using underline. If yound of the text box to many the "Equivalency statem onents" if changing equivalents, the method of commum principle, Green's further dimensional eigenvalents and shock way and [MATH 252 or 254] and [MATH 252 or 254] and point of [MATH 252 or 254]	you need to e lke it bigger, a nents" section alent stateme haracteristica nctions. The lue problems es. Prerequis 384. An altern	s. The wave equation. Harmonic heat equation. Distributions s. An introduction to nonlinear ite: (MATH 260 or MATH



Page 2 of 2

RATIONALE (must be included)

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





Page 1 of 2

COURSE SUBJECT	MATH NUMBER	462	TITLE Fluid Dynamics
TYPE OF CHANGES	Please type 'X' for the ap	propriate rev	ision(s):
Course \square number	Units		Prerequisite
Title	Description		Equivalent \square Statement
allows, drag the end expand. Please revies specific course comparts and boundary layer of MATH 314, MAT	point of the text box to may we the "Equivalency stater conents if changing equiv id flow phenomena: kiner r theory, potential flow, w TH 418, PHYS 384. An alte	ake it bigger, ments" sectio alent stateme matics and eq vater waves.	enter more text than the box as it will not automatically in under Information about ent(s). quations of motion, viscous flow Aerodynamics. Prerequisite: one e above prerequisite is both of des of at least B+. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2020



Page 2 of 2

RATIONALE (must be included)

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



Page 1 of 2

COURSE SUBJE	CCT MATH	NUMBER	461	TITLE	Continuous Mathematical Models					
TYPE OF CHANG	GES. Please ty	pe 'X' for the app	ropriate revi	ision(s):						
Course number	\boxtimes	Units		Prere	equisite 🖂					
Title		Description		-	ivalent □ tement					
indicate added of allows, drag the e expand. Please re	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 specific course components</u> if changing equivalent statement(s).									
461 360 Continuous Mathematical Models- Modeling with Ordinary Differential Equations MATH 461 360 (3) Formulation, analysis and numerical solution simulation of continuous mathematical models. Applications may be selected from topics in physics, biology, engineering and										
economics. Pre 316, MATH 418 251 and MATH	requisite: MA 3 , PHYS 384 . A 310, both wit	TH 310 <u>251 and</u> In alternative to	MATH 260. at the above proast B+. Stude	and one o erequisite nts with	f MATH 314, MACM e is both of MATH credit for MATH 361					

EFFECTIVE TERM AND YEAR FOR CHANGES

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



Page 2 of 2

r-11	120	20
Fall	LZU	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.



Page 1 of 2

COURSE SUBJ	ECT	МАТН	NUMBER	348	TITLE		ilistic Models in ons Research				
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):											
Course number		Uni	ts		Prere	quisite					
Title		Des	scription	\boxtimes	-	ivalent tement					
indicate added of allows, drag the expand. Please of specific course of Probabilistic I	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). Probabilistic Models in Operations Research Introduction to Probabilistic Models										
MATH 348 (3) Inventory the forecasting measurement of the expectation and distribution at include invent STAT 270 and	ory, Mandels, odeling basics and condithe the tory the	lecision Anal , project plan of probabilit ditioning. App Poisson proc eory, queuing	ysis and gan ming using F y, including plications of ess from sci g, forecasting	nes, probabi PERT/CPM, s sample spac Markov cha ence and inc g, scheduling	listic dyn sequencir e, randor ins, the e lustry. Ap g and sim	amic prong and se n variabl xponenti pplication ulation. l	ogramming, heduling. es, al ns may Prerequisite:				

EFFECTIVE TERM AND YEAR FOR CHANGES

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



Page 2 of 2

T 1	1 20	20
Fal	120	120

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	ВЈЕСТ	MBB	NUMBER	326	TITLE	Introduct system	ion to the immune	
TWDE OF CU	ANCEC	Dl town	(V) Cth		visia v (a).			
TYPE OF CH	ANGES.	Please type	e 'X' for the app	propriate re	vision(s):			
Course number		1	Units		Pre	requisite	X	
Title		1	Description			quivalent tatement		
indicate add allows, drag expand. Plea specific cour	ed or nev the endp se reviev	w text using oint of the w the "Equi onents if c	TS. Indicate de gunderline. If text box to maivalency stater hanging equiv	you need to ake it bigger, nents" sectional alent statem	enter mo as it will on under ent(s).	re text than not automa Information	n the box atically n about	
Introduction to the structure and function of the immune system and how this system protects against microbial infections. Innate immune responses, including the function of innate immune cells, receptors and complement. Adaptive immune responses, including the organization of lymphoid organs, development and function of T and B cells, and antibodies. Students with credit for HSCI 426, MBB 426 or HSCI 326 may not take this course for further credit. Prerequisite: MBB 231 with a minimum grade of C.								
			FOR CHANGES please enter in					
RATIONALE	E (must b	e included])					
A minimur UD course			3 231 prerequi	isite has bee	n added o	consistent v	with other MBB	





COURSE S	UBJECT F	PHYS NUMBER	211	TITLE Intermediate Mechanics						
TYPE OF C	HANGES. Ple	ase type 'X' for the app	oropria	ite revision(s):						
Course number		Units		Prerequisite 🖂						
Title		Description		Equivalent \square Statement						
allows, drag expand. Pleaspecific course	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 specific course components</u> if changing equivalent statement(s). 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: <u>PHYS 126 or 121 or 141</u> , with a minimum grade of C-,									
(or PHYS 2 PHYS 255 Corequisit	102, with a note or ENSC 38 e: MATH 25	ninimum grade of B); I O. All prerequisite co	MATH: ourses	251; MATH 232 or MATH 240; require a minimum grade of C mended corequisite: MATH 260 or						
		YEAR FOR CHANGES I year (please enter in		x)						
Fall 2020										
RATIONALI	E (must be in	cluded)								
		o spring to ease studen as for this challenging o		cload allows changes to prereqs to						





COURSE SU	J BJECT P	HYS NUMBER	255	TITLE Vibrations and Waves						
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):										
Course number		Units		Prerequisite ⊠						
Title		Description		Equivalent Statement						
indicate add allows, drag expand. Plea	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s).									
forced osci dimensions or PHYS -10 MATH 232	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 or better. Corequisite: MATH 251; MATH 232 or 240. Recommended corequisiteconcurrent: PHYS-211 and MATH 310260 or MATH 310. Quantitative.									
		YEAR FOR CHANGES year (please enter in)						
Fall 2020]								
RATIONALE	(must be in	cluded)								
with other recommen	entries. PHY d it as a core	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.								



COURSE SUI	ВЈЕСТ РНҮ	NUMBER	384	TITLE	Method I	ls of Theoretical	Physics		
TYPE OF CHA	NGES. Please	type 'X' for the app	propriate rev	vision(s):					
Course number		Units		Prere	quisite				
Title		Description			ivalent tement				
allows, drag the expand. Please specific course. Applications eigenvalue p	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). Applications of mathematical methods in physics, differential equations of physics, eigenvalue problems, solutions to wave equations. Prerequisite: MATH 252 or 254; MATH 260 or MATH 310; PHYS 211; PHYS 255 or ENSC 320;. All prerequisite courses require with a minimum grade of C Corequisite: PHYS 211. Quantitative.								
	EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)								
RATIONALE (must be inclu	ded)							
Change of nu PHYS 211 a	umber of MAT required prere	H 310 -> MATH 26 equisite, which wil	60. Changes t l better prep	o the sche are studer	dule allo	w us to make is course.			



COURSE S	UBJECT I	PHYS NUMBER	385	TITLE Quantum Mechanics						
TYPE OF CI	IANGES. Ple	ase type 'X' for the app	oropria	te revision(s):						
Course number		Units		Prerequisite ⊠						
Title		Description		Equivalent Statement						
indicate add allows, drag expand. Plea	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 specific course components</u> if changing equivalent statement(s).									
Dirac nota independe 252 or 254 with a mir	Wave mechanics and the Schroedinger equation, the harmonic oscillator, introduction to Dirac notation, angular momentum and spin, the hydrogen atom, atomic structure, time-independent 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									
RATIONALI	E (must be in	cluded)								
Change of but will he	number of M lp prepare s	IATH 310 -> MATH 26 tudents for this course	0. PHY	S 211 is not a required prerequisite,						



COURSE S	U BJECT F	PHYS NUMBER	395	TITLE Computational Physic	ics				
TYPE OF CH	IANGES. Ple	ase type 'X' for the app	propriat	te revision(s):					
Course number		Units		Prerequisite ⊠					
Title		Description		Equivalent \square Statement					
indicate add allows, drag expand. Pleaspecific courses Monte-Case	ed or new to the endpoin ase review the se componer based appro- Carlo and modynamical be mination and s, and genetite: MATH 20	ext using <u>underline</u> . If it of the text box to make "Equivalency statements if changing equivalences to solving compolecular dynamics technical echavior of systems, in doptimization, included algorithms: symplectic algorithms: symplectic algorithms a minim	you nee ake it big nents" s alent sta plex phy nniques acluding ding Nev ctic metl YS 255;	r changed text using strike through, and to enter more text than the box agger, as it will not automatically ection under Information about atement(s). Visical problems. Includes topics such applied to thermal properties of a chaotic motion; methods for ground wton-Raphson, simulated annealing, hods; and analysis of numerical data. CMPT 102, 120, or equivalent, All de of C Recommended: PHYS 344 or					
	EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox) Fall 2020								
RATIONALE					_				
		IATH 310 -> MATH 26 120 only. PHYS 344 is		re changing our computing er recommended.					





COURSE SU	BJECT	PHYS NUMBER	413	TITLE Advanced Mechanics							
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):											
Course number		Units		Prerequisite ⊠							
Title		Description		Equivalent \square Statement							
indicate adde allows, drag t expand. Pleas	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s).										
formulation permission 260 or MA	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)											
		латн 310 -> МАТН 26	50.								



COURSE SU	BJECT	PHYS	NUMBER	321	TIT		Interme Magnet	ediate Electr ism	icity and
TYPE OF CH	ANGES. F	Please type 'X'	' for the app	propriate	e revision(s):			
Course number		Uni	its		Pı	rerec	quisite	\boxtimes	
Title		Des	scription		J		valent ement		
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. 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 Information about specific course components if changing equivalent statement(s). 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, with All prerequisite courses require a minimum grade of C-, unless specified. Students with credit for PHYS 221 may not take this course for further									
	ERM AN	D YEAR FOR nd year (plea)				
RATIONALE									
		f MATH 310 -: explicitly to be					r offere	d. Grade	



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:

Undergraduate Course changes for the Department of Physics

DATE:

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