

OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC AND ASSOCIATE PROVOST

8888 University Drive,

TEL: 778.782.4636

avpcio@sfu.ca

Burnaby, BC

Canada V5A 1S6

FAX: 778.782.5876

www.sfu.ca/vpacademic

MEMORANDUM

ATTENTION

Senate

DATE

February 4, 2011

FROM

Bill Krane, Chair

PAGES

1/1

Senate Committee on Undergraduate Studies

Faculty of Science (SCUS 11-12)

RE:

(SCUS 11-12)

For information:

Acting under delegated authority at its meeting of February 3, 2011, SCUS approved the following curriculum revisions effective Fall 2011:

- 1. Biological Sciences (SCUS 11-12a)
 - (i) Change in prerequisite for BISC 405
- 2. Department of Biomedical Physiology and Kinesiology (SCUS 11-12b)
 - (i) Deletion of the Health and Physiological Sciences concentration
 - (ii) Prerequisite change to KIN 426
 - (iii) Course name and description change to KIN 431
 - (iv) Change description and prerequisite for KIN 308 and add to list of upper division electives for Biomedical Physiology majors and Kinesiology majors in Active Health and Rehabilitation Concentration and the Ergonomics Concentration
 - (v) Removal of KIN 221 from Health & Fitness Certificate
 - (vi) Revise Upper Division requirements to allow students in Active Health and Rehabilitation concentration to take both Kin 301 and 407 with one counting as an upper division elective.
 - (vii) Modify Behavioural Neuroscience Major and Honours Programs
 - Remove PHYS 130 and replace it with 2 units of electives
 - Change MBB 221 to MBB 201 in BNS Major and Minor
 - (viii) Deletion of Kin 367-3, 383-3, 416-3, 442-3, 467-3, 485-4, 486-3
 - (ix) W designation for KIN 417

3. Department of Mathematics (SCUS 11-12c)

- (i) Prerequisite changes for Math 252, 309, 314, 418, 419, 461, 462, 467 and 470
- (ii) Title change for Math 439
- (iii) New Course Proposal for Math 441-3, Commutative Algebra and Algebraic Geometry

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Web at http://www.sfu.ca/senate/Senate_agenda.html following the posting of the agenda. If you are unable to access the information, please call 778-782-3168 or email shelley_gair@sfu.ca.



COURSE CHANGE/DELETION

OCTOBER 2007

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number Credit Title Descrip	tion X Prerequisite Course deletion
Indicate number of hours for: Lecture Seminr	Tutorial Lab
FROM Course Number BISC405	T0 Course Number
Credit Hour	Credit Hour
TITLE	
(1) Long title for calendar and schedule, no more than 100 characters include Neurobiology	
(2) Short title for enrollment and transcript, no more than 30 characters inc	luding spaces and punctuation.
DESCRIPTION	DESCRIPTION
PREREQUISITE	PREREQUISITE
BISC305. Students who have completed BISC 472 under the title 'Neurobiology' may not complete BISC 405 for further credit. RATIONALE BISC 305 and KIN 305 cover similar material and adding KIN 305 alternate prerequisite would make this course more accessible to Biomedical Physiology and Kinesiology students.	completed BISC 472 under the title 'Neurobiology' may not complete BISC 405 for further credit.
Does this course replicate the content of a previously approved course to sulf so, this should be noted in the prerequisite .	tch an extent that students should not receive credit for both courses?
Effective term and year Fall 2011	

BPK MOTIONS for FSUCC meeting – January 17th 2011

- 1. MOTION: Remove Health and Physiological Sciences concentration, frem the Kinesiology-Major. This concentration has been replaced by the Biemedical Physiology Major:
- 2. MOTION: Change Pre requisites for Kin 426 Neuromuscular Anatomy
 - a. Delete PSYC 280-Introduction to Biological Psychology b. Add Kin 324 as pre requisite.

FROM: Prerequisite: KIN 325 or KIN 326 or PSYC 280

TO: Prerequisite: KIN 324 or KIN 325 or KIN 326

Rationale: - Instructor finds the students are not adequately prepared with only PSYC 280 as a pre-requisite. Kin 426 is currently required in the Behavioral Neuroscience program. KIN 324 is also required in the Behavioral Neuroscience program and is an acceptable pre requisite for Kin 426.

3. MOTION: To change Kin 431 - Name and Description

From:

Environmental Carcinogenesis

An introduction to core concepts in the field of environmental carcinogenesis. Emphasis will be on the complex interactions of lifestyle factors, carcinogen exposure, genetic susceptibility and dietary habits as determinants of cancer risk. Class work will include discussions of new techniques to monitor exposure to environmental carcinogens and of regulatory aspects of governmental agencies towards carcinogenic agents, as well as approaches being used by such agencies in risk assessment.

To:

Integrative Cancer Biology

Core concepts in cancer biology ranging from the clinical and pathological basis of carcinogenesis to the molecular and cellular changes involved in cancer development. Emphasis will be on the complex interactions of lifestyle factors, genetics and social cultural determinants on cancer risk.

Rationale: Update reflects changes to course content by primary instructor Miriam Rosin.



COURSE CHANGE/DELETION

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropria	te revision(s):					
Course number	Credit	Title	Descrip	tion	✓ Prerequisite	Course deletion
Indicate number of hou	ars for: Lecture		Seminar		Tutorial	Lab
FROM				то		
Course Number	KIN 426			Course Numl	perKIN 4	426
Credits (Units)						
TITLE						
(1) Long title for calend Neuromuscular Anat		more than 100	characters include	THE RESERVE OF THE PERSON OF T	punctuation. ular Anatomy	
(2) Short title for enroll DESCRIPTION	lment and transcrip	t, no more than	30 characters inc	luding spaces a		
PREREQUISITE Prerequisite: KIN 32	95 or KIN 326 or F	086 3/56		PREREQUI:	SITE e: KIN 324 or KIN 3	325 or KIN 326
RATIONALE	students are not a	adequately pre	pared with only lso required in	PSYC 280 a	s a pre-requisite. K	(in 426 is currently required in
	ate the content of a	previously appro requisite.				ot receive credit for both courses?
Effective term and year	Summer 20	11				



COURSE CHANGE/DELETION

EXISTING COURSE, CHANGES RECOMMENDED

Summer 2011

Effective term and year ___

EXISTING COURSE,	CHANGES RECOMMENDED					
Please check appropria	ite revision(s):					
Course number	☐ Credit	Descrip	tion	Prerequi	site	Course deletion
Indicate number of hor	urs for: Lecture 2	Seminar		Tutorial	1	Lab
FROM			то			
Course Number	Kin 431		Course Numb	er	Kin 431	
Credits (Units)						
TITLE						
(1) Long title for calend Environmental Carci	dar and schedule, no more than 10 inogenesis	0 characters includ	ling spaces and Integrative C			
(2) Short title for enrol	llment and transcript, no more than	n 30 characters inc	luding spaces a	nd punctuati	on.	
carcinogenesis. Em lifestyle factors, card dietary habits as de	ore concepts in the field of envirphasis will be on the complex i cinogen exposure, genetic susterminants of cancer risk. Class of new techniques to	nteractions of ceptibility and	pathologica cellular cha will be on th	pts in cance I basis of canges involved to complex	arcinogenes ed in cance interactions	anging from the clinical and sis to the molecular and or development. Emphasis of lifestyle factors, genetics in cancer risk.
PREREQUISITE MBB 231 (or MBB 2 units.	201) and at least 90		PREREQUIS MBB 231 (c units.) and at lea	st 90
RATIONALE Update reflects ong	going changes to course conter	nt.				
	rate the content of a previously appoted in the prerequisite.	proved course to st	ach an extent tl	nat students s	should not re	ceive credit for both courses?



COURSE CHANGE/DELETION

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropria	te revision(s):					
Course number	☐ Credit	Title	Description	on Pr	erequisite	Course deletion
Indicate number of ho	urs for: Lecture	1	Seminar	Tuto	rial	Lab3
FROM			1	го		
Course Number	Kin 308			Course Number	Kin 30	08
Credits (Units)	3			Credits (Units)	3	
TITLE						
(1) Long title for calen Experiments and Me				ng spaces and punct Experiments and		stems Physiology
(2) Short title for enro	llment and transcri	pt, no more than	a 30 characters inch	iding spaces and pur	nctuation.	
DESCRIPTION Measurement, anal systems from a bior include data acquis reflexes, metabolisr pulmonary function	medical engineer ition, muscle me m, movement, ca	ring perspective chanics, nerve	ysiological e. Topics s and	acquisition of phy computer modeli	vsiological dat ng of physiolo nced understa	nds-on experience in the a and mathematical and gical systems. Lectures will nding of select human
PREREQUISITE KIN 208. Recomm	ended: MATLAE	3 Experience.		PREREQUISITE KIN 208 or all of mathematical ba		201, STAT 201 and a strong
RATIONALE Changes will allow introduction to MAT				ently it is only for I	Biomedical Er	ngineering students. An
Does this course replic			proved course to suc	th an extent that stu	dents should as	ot receive credit for both courses?
Effective term and yea	Summer 2	2011				

4. MOTION: Change the description and pre-requisites for KIN 308-Experiments and Models in Systems Physiology

Description:

From:

Measurement, analysis and modeling of human physiological systems from a biomedical engineering perspective. Topics include data acquisition, muscle mechanics, nerves and reflexes, metabolism, movement, cardiovascular function, and pulmonary function.

To:

Lab exercises will provide a hands-on experience in the acquisition of physiological data and mathematical and computer modeling of physiological systems. Lectures will provide an advanced understanding of select human physiological systems.

Prerequisite:

From:

KIN 208. Recommended: MATLAB Experience.

To:

KIN 208 of all of KIN 205, KIN 201, STAT 201 and a strong mathematical background.

Rationale: Changes will allow KIN and BIF majors to expoll in the course. Currently it is only for Biomedical Engineering students. An introduction to MATLAB has been incorporated into the course.

- **5. MOTION**: Add <u>KIN 308-3 Experiments and Models in Systems Physiology</u> to list of upper division requirement options for ;
 - 1. Biomedical Physiology majors
- 2. Kinesiology majors in both the Active Health and Rehabilitation Concentration and the Ergonomics Concentration.

For 1 Biomedical Physiology major

TO:

Biomedical Physiology Major - Upper Division Requirements

Students complete 46-47 upper division units in the following courses, each of which must be completed with a grade of C- or higher.

Students complete all of

Students admitted in September 2006 or later are also required to complete the University's writing, quantitative and breadth (WQB) requirements, which includes the requirement of completing three units of writing-intensive credit at the upper division. The W component may be included within the 52 upper division unit total for this general program.

MOTION: Delete Kin 221 from Health and Fitness Certificate.

Rationale: Kin 221 – special topics in kinesiology is not listed in any of our other programs as an elective or requirement. For consistency we would like to eliminate it form the Health and Fitness Certificate. We considered adding it elsewhere, but it is very rarely offered. It was last offered as the alternate to MBB 221 for Kin majors, which is now offered as MBB 201.

7. MOTION: Allow students in Active Health and Rehabilitation concentration of the Kin Major to take both Kin 301 and 407; counting one as an upper division elective.

Rationale:

Currently Kin majors in the Ergonomics concentration and BIF majors are required to take one of 301/407 and may count the other as an elective. The UPC would like to extend this option to the Active Health and Rehabilitation concentration of the Kin Major.

FROM: Kinesiology Major - Upper Division Core All students complete the following 19 units, including all of

KIN 304W-3 Inquiry and Measurement in Kinesiology†

KIN 305-3 Human Physiology I

KIN 306-3 Human Physiology II

KIN 326-4 Functional Anatomy

KIN 340-3 Active Health: Behavior and Promotion

and one of*

KIN 301-3 Biomechanics Laboratory

KIN 407-3 Human Physiology Laboratory

†KIN 304W satisfies the University's breadth requirements of three upper division units in writing

*Students <u>specializing in the ergonomics and human factors concentration</u> can complete both KIN 301 and 407, and count one as an elective.

TO: Kinesiology Major - Upper Division Core

All students complete the following 19 units, including all of

KIN 304W-3 Inquiry and Measurement in Kinesiology†

KIN 305-3 Human Physiology I

KIN 306-3 Human Physiology II

KIN 326-4 Functional Anatomy

KIN 340-3 Active Health: Behavior and Promotion

and one of*

KIN 301-3 Biomechanics Laboratory

KIN 407-3 Human Physiology Laboratory

†KIN 304W satisfies the University's breadth requirements of three upper division units in writing

*Students can complete both KIN 301 and 407, and count one as an elective.

8. Modify Behavioural Neuroscience Major and Honours Programs

- a. Delete PHYS 130 and replace it with 2 units of electives
- b. Change MBB 221 to MBB 201 in BNS Major and Honours

Rationale: Theses changes were made to all of our other programs several years ago and should have been carried forward to the Behavioral Neuroscience Major and Honors programs.

9. Delete the Following courses from the calendar and from the list of upper division electives for the;

Biomedical Physiology Major, Honors and Minor

Kinesiology Major – Active Health and Rehabilitation Concentration

Kinesiology Major – Ergonomics Concentration

Kinesiology Minor

Behavioral Neuroscience Major and Honors

Kin 367-3 – Psychology of Motor Skill Acquisition

Kin 383-3 – Human Machine and Human Computer Interaction

Kin 416-3 - Control of Limb Mechanics

Kin 442-3 - Biomedical Systems

Kin 467-3 – Human Motor Control

Kin 485-4 - Human Factors in the Underwater Environment

Kin 486-3 – Ergonomics in the Design of Consumer Products

Rationale: These courses have not been offered for several years and the course designers have retired. Kin 383 and Kin 486 will no longer be offered as part of the Ergonomics concentration.



UNIVERSITY CURRICULUM & INSTITUTIONAL LIAISON OFFICE OF THE VICE PRESIDENT ACADEMIC AND PROVOST

MEMO

ADDRESS
8888 UNIVERSITY DRIVE
BURNABY BC V5A 1S6
CANADA

ATTENTION Rolf Mathews, Associate Dean, FSci	TEL
FROM SUSAN RHODES, Assistant Director, University Curricu Institutional Liaison	lum and
RE WQB designation approvals for FSci course	
DATE January 27, 2011	
	TIME 3:46 PM

The University Curriculum Office has approved the following designation for a Faculty of Science department course:

KIN 417 Obesity, Adipocyte Function and Weight Management – W – effective 1121

Please forward this memo to FSciUCC and SCUS for approval.



EXISTING COURSE, CHANGES RECOMMENDED	UNDERGRADUATE STUDIES OCTOBER		·		
Please check appropriate revision(s)				OCTOBER 2007	
Course number Credit Title De	scription	Prerequisite		Deletion	
Indicate number of hours for: Lecture Seminar _		Tutorial	Lab		
FROM:	TO:				
Course Number MATH 252-3	Course	: Number	·	C	redi
Hour	Credit Hour		Management for the constant of the same of the same of	THE RESIDENCE OF THE RE	
TITLE					
(1) Long title for calendar and schedule, no more than 100 character	rs including	spaces and punctuation.			
Vector Calculus					
(2) Short title for enrollment and transcript, no more than 30 charac	ters includin	g spaces and punctuation.			
DESCRIPTION	_				
			······		
PREREQUISITE					_
Prerequisite: MATH 240 or 232, and 251. Students with credit for MATH 254 may not take MATH 252 for further credit. Quantitative.	M ma	o-requisite: MATH ATH 251. Students ay not take MATH uantitative.	with credit f	or MATH 254	
RATIONALE	J L_]
New ordering of material in both 252 and 232/	240 mean	that the classes car	ı be taken sin	nultaneously.	
Does this course replicate the content of a previously approved could be noted in the prerequisite. Effective term and year FALL 2011	rse to such a	n extent that students show	ald not receive en	edit for both courses?	



EXISTING COURSE, CHANGES RECOMMENDED		OMMITTEE ON ADUATE STUDIES	COURSE CHANGE	•
Please check appropriate revision(s)			OCI	OBER 2007
Course number Credit Title De	escription	Prerequisite		Deletion
Indicate number of hours for: I ceture Seminar		Tutorial	Lab	TOTAL CONTRACTOR OF THE PROPERTY OF THE PROPER
FROM:	TO:			
Course Number MATH 309-3	Course	Number	PROTEST AND AMERICAN STREET, S	Crec
Hour	Credit Hour_		The books are considered to the state of the	MALITY & This co. I
TITLE				
(1) Long title for calendar and schedule, no more than 100 characte	ers including s	spaces and punctuation.		
Continuous Optimization		· · · · · · · · · · · · · · · · · · ·		
(2) Short title for enrollment and transcript, no more than 30 charac	tors including	repages and punctuation		
(2) Short title for enforment and manacipal no more than 30 share		5 Spaces and panetaction.		
DESCRIPTION				
PREREQUISITE	J L			
Prerequisite: MATH 240 or 232, and 251. Recommended: MATH 308. Quantitative.		erequisite: MATH 2 nantitative.	40 or 232, and 25	51.
RATIONALE To update prerequisites to reflect current s	villabus			
	<u> </u>			
Does this course replicate the content of a previously approved could so, this should be noted in the prorequisite .	irse to such ar	extent that students should	ld not receive credit for	r both courses?
Effective form and year FALL 2011	ik (lag m.m.) sawajiking diffin (FFN) sakan			





EXISTING COURSE, CHANGES RECOMMENDED	SENATE COMMITTEE ON UNDERGRADUATE STUDIES	COURSE CHANGE/DELETION
Please check appropriate revision(s)		OCTOBER 2007
Course number Credit Title De	escription	☐ Deletion
Indicate number of hours for: Lecture Seminar	Tutorial	Lab
FROM:	TO:	
Course Number MATH 314-3	Course Number	Credit
Hour	Credit Hour	
TITLE		
(1) Long title for calendar and schedule, no more than 100 characte	ers including spaces and punctuation.	
Introduction to Fourier Methods and Partial Differential Equations		
(2) Short title for enrollment and transcript, no more than 30 characteristics.	cters including spaces and punctuation.	
DESCRIPTION	7	
PREREQUISITE		
Prerequisite: MATH 252 (or 254) and 310, and computing experience. Quantitative.	_	10; and one of 252, 254, or or better. Quantitative.
RATIONALE		
To broaden access for capable non-major	students.	
Does this course replicate the content of a previously approved confirm in the prorequisite.	urse to such an extent that students shou	ld not receive credit for both courses?
Effective term and year FALL 2011		



EXISTING COURSE, CHANGES RECOMMENDED	UNDERGRADUATE STUDIES		COURSE CHANGE/DELETION OCTOBER 2007		
Please check appropriate revision(s)					
Course number Credit Title De	escription 🔀 Pre	requisite		Deletion	
Indicate number of hours for: Fecture Seminar	Tuto	rial	Lab	ton and the same of the same o	
FROM:	TO:				
Course Number MATH 418-3	Course Number		Marketon in a large or commence of the same state of the same stat	Cro	
[lour	Credit Hour				
TITLE					
(1) Long title for calendar and schedule, no more than 100 characte	ers including spaces and p	ounctuation.			
Partial Differential Equations					
(2) Short title for enrollment and transcript, no more than 30 charac	ters including spaces and	l punctuation.			
DESCRIPTION	,				
PREREQUISITE	J				
Prerequisite: MATH 314 (or PHYS 384) or	Prerequisite	: MATH 3	10 and one of (M	IATH 314,	
permission of the department. Recommended:		•	Students may al	_	
MATH 242 and 320. Quantitative.	grades of at		ATH 310, both uantitative.	With	
RATIONALE	J L				
To broaden access for capable non-major	students.				
Does this course replicate the content of a previously approved cou	irse to such an extent that	students should	I not receive credit for	r both courses?	
If so, this should be noted in the prerequisite .					
Effective term and yearFALL 2011					



EXISTING COURSE, CHANGES RECOMMENDED		OMMITTEE ON ADUATE STUDIES	COURSE CHANGE/D	
Please check appropriate revision(s)			OCTO	BER 2007
Course number Credit Title	Description	Prerequisite		Deletion
Indicate number of hours for: 1 ecture Semina	ur	Tutorial	Lab	MATERIAL STATE OF THE STATE OF
FROM:	TO:			
Course Number MATH 419-3	Course	Number	Makanan garana marangan paga sa sa sanat sa sanat sa sanat sa	Credi
Hour	_ Credit Hour		entre proprieta de la companya de l	April 1970 - Secret
TITLE				
(1) Long title for calendar and schedule, no more than 100 charm	eters including	spaces and punctuation.		
Linear Analysis				
(2) Short title for enrollment and transcript, no more than 30 char	racters includin	g spaces and punctuation.		
DESCRIPTION				
PREREQUISITE				
Prerequisite: MATH 240 (or MATH 232 with a grade of at least B+) and MATH 320. Recommended: MATH 252. Quantitative.		erequisite: MATH 2 4, 320, 322, PHYS		` 1
RATIONALE				
To broaden access for capable non-major	or students	•		
Does this course replicate the content of a previously approved of fiso, this should be noted fix the prerequisite .	course to such a	n extent that students shou	ld not receive credit for b	oth courses?
Effective term and year Fall 2011				



EXISTING COURSE, CHANGES RECOM	MENDED		OMMITTEE ON ADUATE STUDIES	COURSE CHAN	GE/DELETION	
Please check appropriate revision(s)	UNDERGRADUATE STUDIES	C	OCTOBER 2007			
Course number Credit Ti	itle 🔲 De	escription	Prerequisite	[Deletion	I
Indicate number of hours for: 1 octore	Seminar	* *******	Tutorial	Lub		
FROM:		TO:				
Course Number MATH 461-3		Course	Number			Credi
llour		Credit Hour_		NEWS TOOLS - CONTRACT TO STREET	the site of the same within the parameter.	
TITLE						
(1) Long title for calendar and schedule, no more th	an 100 characto	ers including s	maces and punctuation.			
Continuous Mathematical Model						7
Continuous Wathematical Woode						
(2) Short title for enrollment and transcript, no more	than 30 charac	cters including	spaces and punctuation.			
DESCRIPTION		- -				
PREREQUISITE		J L				
Prerequisite: MATH 314 and MACN	M 316.	Pro	erequisite: MATH 3	10 and one of	(MATH 314	
Students with credit for MATH 361		31	6, 4 18, PHYS 384).	Students may	also register	•
take MATH 461 for further credit. Quantitative.			th MATH 251 and I at least B+. Quantit	•	with grades	•
Quantitative.			at least D+. Qualiti	auve.		ļ
] [_				
RATIONALE						
To broaden access for capable	non-major	students				
Does this course replicate the content of a previous		irse to such a	extent that students shou	ld not receive credi	t for both course:	s?
If so, this should be noted in the prerequisi	te.					
Effective term and year FALL 2011						

EXISTING COURSE, CHANGES RECOMMENDED	TING COURSE, CHANGES RECOMMENDED SENATE COLUMBERGRA		COURSE CHANGE/DELETION		
Please check appropriate revision(s)			OCTOBER 2007		
Course number Credit Title De	escription	Prerequisite		Deletion	
Indicate number of hours for: 1 ecture Seminar		Tutorial	Lab	g g toods / 200000000000000000000000000000000000	
FROM:	TO:				
ourse Number MATH 462-3	Course	Number	Managarity 1.1 or at the designation of the state of the	Marie or the \$100m continue displacements	
lour	Credit Hour_	i go qua a anno a th' a na ann an	Welling the second of the seco	e serve pre fin (C. v. enge ne	
TITLE					
1) Long title for calendar and schedule, no more than 100 character	ers including s	spaces and punctuation.			
Fluid Dynamics					
2) Short title for enrollment and transcript, no more than 30 chara	eters including	spaces and nunctuation			
- Autor title two constituents and districtions and district the constituents of the c		· ·			
DESCRIPTION					
PREREQUISITE	J		 		
Prerequisite: MATH 314 or PHYS 384,	Pre	erequisite: One of (I	MATH 314, 418.	PHYS	
MATH 322. Quantitative.	384	4) or (MATH 251 a	nd 310, both with		
	at I	least B+). Quantitat	ive.		
RATIONALE:					
To broaden access for capable non-major	students.				
Does this course replicate the content of a previously approved con			ld not receive credit fo	r both courses?	
If so, this should be noted in the prerequisite .					
Effective term and year FALL 2011					



EXISTING COURSE, CHANGES RECOMMENDED		OMMITTEE ON ADUATE STUDIES	COURSE CHANGE,	DELETION
Please check appropriate revision(s)		ovvi di obili.g	OCT	OBER 2007
Course number Credit Title De	scription	Prerequisite		Deletion
Indicate number of hours for: 1 ceture Seminar_	**************************************	Tutorial	Lab	y D. Apr Mandala Maria de Lancia a ser es a seguna a
FROM:	TO:			
Course Number MATH 467-3	Course	Number	M MICHIGANIC CONTRACTOR OF CONTRACTOR CONTRA	Credi
Hour	Credit Hour _	endonas. Il a 18 M ^a rio 18 Meridia anno ant a garacti d'a solitica anno		and the second s
TITLE				
(1) Long title for calendar and schedule, no more than 100 character	rs including s	paces and punctuation.		
Dynamical Systems				
(2) Short title for enrollment and transcript, no more than 30 characteristics.	ters including	spaces and punctuation.		
DESCRIPTION	T -			
PREREQUISITE				
Prerequisite: MATH 310. Recommended: MATH 320. Quantitative.	Pre	requisite: MATH 3	10. Quantitative.	
RATIONALE	J L			
To update prerequisites to reflect current s	yllabus.			
Does this course replicate the content of a previously approved cour If so, this should be noted in the prerequisite .	rse to such an	extent that students should	d not receive credit for	both courses?
·				
Effective term and year FALL 2011				



EXISTING COURSE, CHANGES RECOMMENDED		OMMITTEE ON ADUATE STUDIES	COURSE CHANGE/DELETION	
Please check appropriate revision(s)			OCTOBER 2007	
Course number Credit Title De	escription	Prerequisite	Deletion	ı
Indicate number of hours for: I ecture Seminar		Tutorial	Lab	
FROM:	TO:			
Course Number MATH 470-3	Course	Number		Credi
Hour	Credit Hour			
TITLE				
(1) Long title for calendar and schedule, no more than 100 characte	rs including s	spaces and punctuation.		
Variational Calculus				
(2) Short title for enrollment and transcript, no more than 30 characteristics.	eters including	g spaces and punctuation.		لـ
DESCRIPTION	, L			 -
PREREQUISITE				
Prerequisite: MATH 314 or PHYS 384.	1 1	•	10 and one of (MATH 314	١,
Recommended: MATH 320. Quantitative.		0, 322, PHYS 384).	Students may also 254 and MATH 310, both	ļ
	1 1	th grades of at least	•	
RATIONALE				
To update prerequisites to reflect current s students.	yllabus 8	to broaden acces	ss for capable non-major	•
Does this course replicate the content of a previously approved could so, this should be noted in the prerequisite .	rse to such a	r extent that students should	d not receive credit for both course	s?
E/11 2044				
Effective term and year FALL 2011				



EXISTING COURSE, CHANGES RECOMMENDED	SENATE COMMITTEE ON	COURSE CHANGE/DELETION
Please check appropriate revision(s)	UNDERGRADUATE STUDIES	OCTOBER 2007
☐Course number ☐ Credit ☑ Title ☐ Des	scription Prerequisite	Deletion
Indicate number of hours for: Lecture Seminar	Tutorial	Lab
FROM:	TO:	
Course Number MATH 439	Course Number	Cree
I fourC		
TITLE		
(1) Long title for calendar and schedule, no more than 100 characters	s including spaces and punctuation.	
Algebra IV: Special Topics in Algebra	Selected To	pics in Algebra
(2) Short title for curollment and transcript, no more than 30 characters.	ers including spaces and punctuation.	
DESCRIPTION		
DDEDEOLUCITE		<u></u>
PREREQUISITE		
RATIONALE		
Drop "Algebra !V" from the title		
Does this course replicate the content of a previously approved cour	se to such an extent that students shou	ld not receive credit for both courses?
If so, this should be noted in the prerequisite . Spring 2012		
Effective term and year Spring 2012	Minus and the control of the street of the s	to district regarding the control of



NEW COURSE PHONE AND 1 OF 3 PAGES

COURSE	NUMBER	IVIF	١,

MATH 441

COURSE TITLE

LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Commutative Algebra and Algebraic Geometry

81	n

SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Comm. Algebra & Algebraic Geom				
CREDITS Indicate number of credits for: Lecture	Seminar	Tutorial	Lab	
COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL. A study of ideals and varieties. Topics include affine varieties, ideals, the Hilbert basis theorem, resultants and elimination, Hilbert's Nullstellensatz, irreducible varieties and prime ideals, decomposition of varieties, polynomial mappings, quotient rings, projective space and projective varieties.				
PREREQUISITE MATH 340				
COREQUISITE				
SPECIAL INSTRUCTIONS				
That is, does this course replicate the content of a prev courses.? If so, this should be noted in the prerequis		such an extent that students sl	nould not receive credit for both	
COURSES(S) TO BE DELETED IF THIS COURSE IS NOTE: APPROPRIATE DOCUMENT FOR DELETIO		TO SCUS		

RATIONALE FOR INTRODUCTION OF THIS COURSE

We have been offering the content of this course under MATH 439: Algebra IV Topics in algebra in 2008 and 2010 and now that we have decided on content we wish to give the offering a regular title.



NEW COURSE PROPOSAL
2 OF 3 PAGES

SCHEDULING AND ENROLLMENT INFORMATION

Indicate effective term and year course would first be offered and planned frequency of offering thereafter:

Spring 2012 then every other year alternating MATH 439/ MATH 441

(NOTE: There is a two-term wait for implementation of any new course.)
Indicate if there is a waiver required: YES VNO Will this be a required or elective course in the curriculum? Required Elective
What is the probable enrollment when offered? Estimate 15
Which of your present CFL faculty have the expertise to offer this course?
Jason Bell , Nils Bruin, Michael Monagan
Are there any proposed student fees associated with this course other than tuition fees? TES NO (If yes, attach mandatory supplementary fee approval form.)
RESOURCE IMPLICATIONS
NOTE: Senate has approved (\$.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.
Campus where course will be taught Burnaby
Library report status_
Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?
We will be sharing the teaching resources allocated to MATH 439 with MATH 441 every other year.
List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:
Articulation agreement reviewed? TES NO VES Not applicable
OTHER IMPLICATIONS



NEW COURSE PROPOSAL 3 OF 3 PAGES

APPROVALS

1	Departmental approval indicates that the Department or School has appro	
other Departments/Schools/Faculties regarding proposed course content and overlap issues.		
	1/ Quel Ma ==	24.01.11
	Chair, Department/School	Date
	[defmathews	24.01.11 Date 25/01/11
	Chair, Faculty Curriculum Committee	Date
2	Faculty approval indicates that all the necessary course content and overla Faculty/School/Department commits to providing the required Library for	
	SEE ATTACHED EMAIL	09 Dec 2010
	Dean or designate	Date
	mentary evidence of responses. Ident Services - Q-approval given. Please see attached n	nemo.
	*	
	r Faculties approval indicated that the Dean(s) or Designate of other Faculties AFFEC ew course:	TED by the proposed new course support(s) the approval of
		Date
3	SCUS approval indicates that the course has been approved for implement being addressed.	tation subject, where appropriate, to financial issues
	COURSE APPROVED BY SCUS (Chair of SCUS):	
		Date

APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.

MATH 441 - Commutative Algebra and Algebraic Geometry

Topics:

A study of ideals and varieties. Topics include affine varieties, ideals, the Hilbert basis theorem, resultants and elimination, Hilbert's Nullstellensatz, irreducible varieties and prime ideals, decomposition of varieties, polynomial mappings, quotient rings, projective space and projective varieties. Additional topics depending on the instructor: Groebner bases and automatic theorem proving in geometry, Bezout's theorem, dimension, and elliptic curves.

Outline:

An introduction to the objects of algebraic geometry: polynomials (in one or more variables over a field), varieties (solutions of systems of polynomial equations), ideals, Groebner bases, and quotient rings. This is a generalization of the theory of linear systems and linear algebra to treat systems of non-linear polynomial equations. The discovery of Groebner bases by Bushberger in 1965, followed by the development of software implementations for computing Groebner bases has made possible a very constructive approach to this subject. Throughout the course we will be using Maple for doing calculations.

Ideals and Varieties:

Polynomials, ideals and varieties

Curves and surfaces in two and three dimensions

Parametrizations of affine varieties

Groebner Bases:

The division algorithm, the Hilbery basis theorem and Groebner bases Buchbergers algorithm in two and three dimensions

Parametrizations of affine varieties

Elimination Theory

Elimination theory, implicitization of curves and surfaces, unique factorization, and polynomial resultants.

Hilberts Nullstellensutz and ideal decomposition

Hilberts Nullstellensatz

Decomposition of varieties and the primary decomposition of ideals

Quotient rings

Applications

Geometric Theorem proving, circle packing problems

Grading: Homework 60% Final exam 40%

Required Textbook:

Ideals, Varieties and Algorithms, 3rd Edition, Author: Cox, Little and O'Shea

Publisher: Springer-Verlag, Year: 2007, ISBN: 387356509

Prerequisite:

MATH 340



UNIVERSITY CURRICULUM & INSTITUTIONAL LIAISON OFFICE OF THE VICE PRESIDENT ACADEMIC AND PROVOST

MEMO

ADDRESS
8888 UNIVERSITY DRIVE
BURNABY BC V5A 1S6
CANADA

ATTENTION JOAnne Hennessey	TEL
FROM SUSAN RHODES, Assistant Director Institutional Lia	
RE MATH 441 Q designation	
DATE December 14, 2010	
	TIME 2.17 PM

Please be advised that the University Curriculum Office has approved Q designation for MATH 441 (Commutative Algebra and Algebraic Geometry). This information can be forwarded to the Faculty of Science Undergraduate Committee for the upcoming January 2011 meeting, and then on to SCUS for final approval.