

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

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MEMORANDUM -			
ATTENTION	Senate	DATE	March 5, 2010
FROM	Bill Krane, Chair	PAGES	1/1
RE:	Senate Committee on Undergraduate Studies Faculty of Applied Sciences		Mulline

For information:

Acting under delegated authority at its meeting of March 4, 2010, SCUS approved the following curriculum revisions:

- 1. School of Computing Science (SCUS 10-13b)
 - (i) Changes to the First-year Requirements in the Software Systems Major Program
 - (ii) Prerequisite changes for CMPT 100, 102, 120, 125, 126, 128, 150, 212, 218, 225, 250, 301, 305, 310, 318, 320, 340, 354, 361, 363, 365, 379, 383, 417, 418, and 499.

2. School of Engineering Science (SCUS 10-20)

- (i) New Course proposal: ENSC 280-3, Engineering Measurement and Data Analysis
- (ii) Changes to the requirements for the Mechatronics Systems Engineering program.

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

Software Systems Calendar Change #2

The following changes should be made to page 79 of the Calendar, specifically to the section entitled "Software Systems Major Program". The original text is included below, with the additions underlined in blue:

Software Systems Major Program

This program provides skills, knowledge and thought processes necessary for professional software production, while also providing a broad background <u>of</u> various computing systems that graduates encounter in their careers. For course planning information, visit http://www.cs.sfu.ca/undergrad/Advising

First-year Requirements

The first year of Software Systems is the Systems One program, a joint program with the Mechatronics Systems Engineering program. The courses required for Systems One are included in the following lists of requirements.

Systems Requirements

Students complete all of

CMPT 150-3 Introduction to Computer Design CMPT 250-3 Introduction to Computer Architecture CMPT 300-3 Operating Systems I

ENSC 182-3 Mechatronics Design I

and two of

CMPT 170-3 Introduction to Web Application Development CMPT 371-3 Data Communications and Networking CMPT 471-3 Networking II CMPT 354-3 Database Systems I CMPT 454-3 Database Systems II CMPT 401-3 Operating Systems II CMPT 432-3 Real-time Systems CMPT 433-3 Embedded Systems CMPT 470-3 Web-based Information Systems 18 units

Fundamentals Requirements

Students complete all of

CMPT 105W-3/ENSC 105W-3 Process, Form, and Convention in professional Genres CMPT 106-3/ENSC 106-3 Applied Science, Technology and Society CMPT 307-3 Data Structures and Algorithms MACM 101-3 Discrete Mathematics I MACM 201-3 Discrete Mathematics II MATH 151-3 Calculus I MATH 232-3 Elementary Linear Algebra CMPT 322W-3 Professional Responsibility and Ethics and one of STAT 101-3 Introduction to Statistics

STAT 270-3 Introduction to Probability and Statistics

24 units

The remainder of this section of the Calendar should remain unchanged.

SCUS 10-13b(ii)

EXISTING COURSE, CHANGES RECOMMENDED Please check appropriate revision(s): Course number Credit Indicate number of hours for: Lecture Seminar FROM TO Course Number Lab Course Number CMPT 100 Course Number CMPT 100 Credits (Units) Credits (Units) Credits (Units) Credits (Units) TITLE Course number and schedule, no more than 100 characters including spaces and punctuation. Software packages and programming Software packages and programming (2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION DESCRIPTION PREREQUISITE PREREQUISITE BC Mathematics 12 or MATH 100 or MATH 110, Students with credit for CMPT 101, 102, 103, 104, 120, 126 or 128 may not take CMPT 100 for further credit. RATIONALE CMPT 101, 103, and 104 have not been offered for more than five years.	SFU	UNDERGRADUATE		COOKS	E CHANGE/DELETION	
Please check appropriate revision(s): Course number Credit Title Description Prerequisite Course deletion Indicate number of hours for: Lecture Seminar Tutorial Lab	EXISTING COURSE, CHANGES	RECOMMENDED				
Course number Credit Title Description Prerequisite Course Advectorial Indicate number of hours for: Lecture Seminar Tutorial Lab FROM TO Course Number Lab Credits (Units) Credits (Units) Credits (Units) Credits (Units) Credits (Units) Credits (Units) TTTLE Credits (Units) Credits (Units) Closer packages and programming Software packages and programming (2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION PREREQUISITE PREREQUISITE BC Mathematics 12 or MATH 100 or MATH 110. Students with credit for CMPT 101, 102, 103, 104, 120, 126 or 128 may not take CMPT 100 for further credit. PREREQUISITE RATIONALE CMPT 101, 103, and 104 have not been offered for more than five years. PREREQUISITE	Please check appropriate revision(:				
Indicate number of hours for: Lecture Seminar Tutorial Lab	Course number Cred	Credit Title Description			Prerequisite	Course deletion
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CMPT 101, 103, and 104 have not been offered for more than five years.	Software packages and progr (2) Short title for enrollment and DESCRIPTION PREREQUISITE BC Mathematics 12 or MATH with credit for CMPT 101, 102 not take CMPT 100 for furthe	100 or MATH 110. S , 103, 104, 120, 126 o credit.	30 characters inclu inclusion itudents or 128 may	Iding spaces and p DESCRIPTION PREREQUISIT BC Mathemati with credit for CMPT 100 for	E E CMPT 102, 12 further credit.	H 100 or MATH 110. Student 0, 126 or 128 may not take
	Software packages and progr (2) Short title for enrollment and DESCRIPTION PREREQUISITE BC Mathematics 12 or MATH with credit for CMPT 101, 103 not take CMPT 100 for furthe RATIONALE	anscript, no more than 100 or MATH 110. S , 103, 104, 120, 126 o credit.	30 characters inclu itudents or 128 may	iding spaces and p DESCRIPTION PREREQUISIT BC Mathemati with credit for CMPT 100 for	E E CMPT 102, 12 further credit.	ੀ 100 or MATH 110. Student 0, 126 or 128 may not take
	Software packages and progr (2) Short title for enrollment and DESCRIPTION PREREQUISITE BC Mathematics 12 or MATH with credit for CMPT 101, 100 not take CMPT 100 for furthe RATIONALE CMPT 101, 103, and 104 hav	amming anscript, no more than 100 or MATH 110. S , 103, 104, 120, 126 o credit. e not been offered for	30 characters inclu 30 characters inclu itudents or 128 may r more than five t	Iding spaces and p DESCRIPTION PREREQUISITI BC Mathemati with credit for CMPT 100 for years.	e E ics 12 or MATH CMPT 102, 12 further credit.	1 100 or MATH 110. Student 0, 126 or 128 may not take

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year _____

SFU	SENA UNDI	TE COMMITTEI :rgraduate s	E ON FUDTES	COURS	E CHANGE/DELETION
EXISTING COURSE,	CHANGES RECOM	IMENDED			
Please check appropri	ate revision(s):				
Course number	Credit	Title	Description	Prerequisite	Course deletion
Indicate number of he	ours for: Lecture	Se	eminar	Tutorial	Lab
FROM			то		
Course Number	CMPT 102		Course	e Number	
Credits (Units)			Credit	s (Units)	
TITLE					
(1) Long title for cales Introduction to scie	ndar and schedule, no antific computer pro	o more than 100 cha	iracters including spa	ces and punctuation.	
(2) Short title for enro	ollment and transcrip	ot, no more than 30 (characters including	spaces and punctuation.	
DESCRIPTION			DESC	RIPTION	
PREREQUISITE			PRER	LEQUISITE	
Correquisite: MA for CMPT 101, 10 102 for further cre	TH 152 or 155 (or 3, 104, 120, 126 of dit. Quantitative.	158). Students wi r 128 may not take	th credit Corr CMPT cred furth	requisite: MATH 152 or 1 lit for CMPT 120, 126 or her credit. Quantitative.	55 (or 158). Students with 128 may not take CMPT 102 for
RATIONALE					
CMPT 102, 103, a	and 104 have not b	een offered for ov	ver five years.		
Does this course repli If so, this should be n	icate the content of a oted in the pre	a previously approved requisite.	d course to such an e	xtent that students should n	ot receive credit for both courses?
	Fall 2010				

Effective term and year ____

SFU	sen/ Und	ATE COMMIT Ergraduate	FEE ON STUDIES		COURS	E CHANGE/DELETION
EXISTING COURSE,	CHANGES RECO	MMENDED				
Please check appropria	ate revision(s):					
Course number	Credit	Title	Descript	tion	Prerequisite	Course deletion
Indicate number of ho	ours for: Lecture	····· <u>-··-</u>	Seminar		Tutorial	Lab
FROM Course Number	CMPT 120			TO Course N	umber	
Credits (Units)				Credits (U	 Jnits)	
TITLE						
(1) Long title for caler	ndar and schedule, r	o more than 100	characters includ	ling spaces	and punctuation.	
Introduction to corr	puter science an	d programming	I			
(2) Short title for enro DESCRIPTION BC Math 12 or equ credit for CMPT 10 course numbered course for further of	ilment and transcri livalent is recomr)1, 102, 103, 104 CMPT 200 or hig redit. Quantitativ	pt, no more than nended. Studer , 125, 126, 128 her may not tak re/Breadth-Scie	30 characters inc nts with or any e this nce	luding spac	res and punctuation. PTION	
PREREOUISITE				PREREC	DUISITE	
(See abovedidn	t fit in this box.)			BC Mat credit fo may no	th 12 or equivalent rec or CMPT 102,125, 126 t take for further credit	ommended. Students with , 128 or CMPT 200 or higher . Quantitative/Breadth-Science.
RATIONALE						
CMPT 101, 103, a	nd 104 have not	been offered for	r over five year	s.		
Does this course repli	cate the content of	a previously appre	oved course to su	ich an exter	nt that students should no	ot receive credit for both courses?
If so, this should be n	oted in the pre	erequisite.				
Effective term and yea	Fall 2010					

SFU	SEU SENATE COMMITTEE ON UNDERGRADUATE STUDIES			COURS	E CHANGE/DELETION
EXISTING COURSE,	CHANGES RECOM	IMENDED			
Please check appropri	ate revision(s):				
Course number	Credit	Title	Description	Prerequisite	Course deletion
Indicate number of ho	ours for: Lecture		Seminar	Tutorial	Lab
FROM			то		
Course Number	CMPT 125		Сол	rse Number	
Credits (Units)			Cred	its (Units)	
TITLE					
(1) Long title for cale	ndar and schedule, no	o more than 100) characters including s	paces and punctuation.	
Introduction to com	nputing science an	d programmin	g 11		
(2) Short title for enro DESCRIPTION BC Math 12 (or eq credit for CMPT 10 CMPT 200 or high Quantitative.	ollment and transcrip Juivalent) and CMF 01, 104, 126, 128 c er may not take th	t, no more than PT 120. Stude or any course is course for fi	30 characters including DES onts with numbers urther credit.	g spaces and punctuation. CRIPTION	
PREREQUISITE			PRE	REQUISITE	
(See abovedidn	't fit.)		BC cre tak	Math 12 (or equivalent) a dit for CMPT 126, 128 or se for further credit. Quan	and CMPT 120. Students with CMPT 200 or higher may not titative.
RATIONALE					
CMPT 101 and 10)4 have not been o	ffered for over	r five years.		
Does this course repli If so, this should be n	cate the content of a oted in the pres	previously appr requisite.	roved course to such an	extent that students should r	not receive credit for both courses?
Effective term and ye;	Fall 2010				

SFU	SEN/ UND	ATE COMMITI Ergraduate	TEE ON STUDIES		COURSI	E CHANGE/DELETION
EXISTING COURSE,	CHANGES RECO	MMENDED				
Please check appropria	te revision(s):					
Course number	Credit	Title	Descrip	tion	Prerequisite	Course deletion
Indicate number of he	ours for: Lecture		Seminar		Tutorial	Lab
FROM Course Number	CMPT 126			TO Course Nu	mber	
Credits (Units)				Credits (Ur	nits)	
TITLE						
(1) Long title for caler	idar and schedule, r	io mo re than 100	characters inclu	ding spaces a	nd punctuation.	
Introduction to com	puting science a	nd programming	1			
(2) Short title for enro DESCRIPTION Students with cred course numbered (course for further o	llment and transcri it for CMPT 101, CMPT 200 or hig redit. Quantitativ	pt, no more than 3 104, 125, 128 o her may not take /e/Breadth-Scier	30 characters ind r any e this nce.	luding space	s and punctuation. FION	
PREREQUISITE				PREREQU	JISITE	
(See above-didn't (lit)			Students higher m Quantita	with credit for CMP1 ay not take for furthe live/Breadth-Science	T 125, 128 or CMPT 200 or r credit.
RATIONALE						
CMPT 101 and 10	4 have not been	offered for more	than five year	s.		
Does this course replic	rate the content of	a previously appre	wed course to st	ich an extent	that students should no	ot receive credit for both courses?
If so, this should be n o	sted in the pro	erequisite.				
Effective term and yea	raii 2010 r					

SFU	SENA UND	TE COMMIT Ergraduate	COURSI	E CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECO	AMENDED				
Please check appropria	ate revision(s):					
Course number	Credit	Title	Descri	ption	Prerequisite	Course deletion
Indicate number of ho	ours for: Lecture		Seminar		Tutorial	Lab
FROM Course Number	CMPT 128			TO Course N	lumber	
Credits (Units)				_ Credits (l	Jnits)	
TITLE						
(1) Long title for cales	ndar and schedule, n	o more than 100	characters incl	uding spaces	and punctuation.	
Introduction to com engineers	nputing science ar	nd programming	g for			
(2) Short title for enro	llment and transcri	pt, no more than	30 characters it	ıcluding spa	ces and punctuation.	
DESCRIPTION				DESCRI	PTION	
BC Math 12 (or eq 101, 104, 125, 126 higher may not tak Quantitative/Breac	uivalent). Studen or any course nu te this course for f hth-Science.	ts with credit fo Imbered CMPT urther credit.	or CMPT 200 or			
PREREQUISITE				PREREC	QUISITE	
(See abovedidn	't fit.)			BC Ma 125, 13 credit.	th 12 (or equivalent). 5 26 or CMPT 200 or hig Quantitative/Breadth-5	Students with credit for CMPT her may not take for further Science.
RATIONALE						
CMPT 101 and 10	14 have not been (offered for over	five years.			
Does this course repli If so, this should be n	cate the content of a oted in the pre	a previously appr e requisite .	oved course to	such an exte	ent that students should no	ot receive credit for both courses?

Effective term and year ____

Fall 2010

JANUARY 2008

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SFU	SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES				COURSE CHANGE/DELETION		
EXISTING COURSE, C	HANGES RECO	MMENDED					
Please check appropriate	revision(s):						
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of hou	rs for: Lecture		Seminar	Tutorial	Lab		
FROM			то				
Course Number	CMPT 150		Co	urse Number			
Credits (Units)			Cre	dits (Units)			
TITLE							
(1) Long title for calend Introduction to comp	ar and schedule, n uter design.	o more than 100	characters including	spaces and punctuation.			
(2) Short title for enrolli	nent and transcrij	pt, no more than	30 characters includii	ng spaces and punctuation.			
DESCRIPTION Students who have this course for further 101 and CMPT 120, programming backg	aken ENSC 150 r credit. Strong or MACM 101 a round. Quantita	D or CMPT 290 Ily recommende and substantial ttive.	DE cannot take d: MACM	SCRIPTION			
PREREQUISITE			PR	EREQUISITE			
(See abovedidn't	iit.)		S C	tudents who have taken I redit. Strongly recommen MPT 120 or equivalent p	ENSC 150 cannot take for further ided: MACM 101 and either rogramming. Quantitive.		
RATIONALE							
CMPT 290 has not I	peen offered for	over five years					
Does this course replica If so, this should be no t	te the content of ted in the pre	a previously appre prequisite.	oved course to such a	n extent that students should	t not receive credit for both courses?		
Effective term and year	Fall 2010	<u></u>					

SFU	SENA	ATE COMMIT Ergraduati	COURSE CHANGE/DELETION			
EXISTING COURSE,	CHANGES RECO	MMENDED				
Please check appropria	ate revision(s):					
Course number	Credit	Title	Descri	iption	Prerequisite	Course deletion
Indicate number of ho	ours for: Lecture		Seminar		Tutorial	Lab
FROM	CMPT 212			TO	water	
Credits (Units)				_ Credits (U	inits)	
TITLE						
Object-oriented ap	plications design	in C++		uning spaces		
(2) Short title for enro	ollment and transcrip	pt, no more than	30 characters i	ncluding spac	es and punctuation.	
DESCRIPTION				DESCRII	PTION	
PREREQUISITE				PREREC	UISITE	
CMPT 101, 104, 1 or 225.	25, 126 or 128. F	Recomended: (CMPT 201	CMPT	125, 126 or 128. Rec	omended: CMPT 225.
RATIONALE						
CMPT 101, 104, a	and 201 have not	been offered fo	or over five yea	ars.		
Does this course repli If so, this should be n	cate the content of oted in the pre	a previously appr e requisite .	roved course to	such an exte	nt that students should n	ot receive credit for both courses?

Fall 2010

Effective term and year ____

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES				COURS	COURSE CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECON	MENDED					
Please check appropria	ate revision(s):						
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of ho	ours for: Lecture		Seminar	Tutorial	Lab		
FROM	CMPT 218		то				
Course Number			Course	Number			
Credits (Units)			Credits	(Units)			
TITLE							
(1) Long title for caler	ndar and schedule, n	o more than 100	0 characters including spac	es and punctuation.			
Special topics in co	omputing science						
(2) Short title for enro	llment and transcrip	ot, no more than	30 characters including s	paces and punctuation.			
DESCRIPTION			DESCI	RIPTION			
PR FR FOUISITE			PRER	EOUISITE			
CMPT 201 or 205							
RATIONALE							
CMPT 201 and 20	5 have not been o	offered for ove	r five years.				
D					an analysis and the first second second		
Does this course replie If so, this should be n t	cate the content of a oted in the pre	requisite.	roved course to such an ex	ment that students should n	or receive credit for both courses?		

Fall 2010

Effective term and year ____

SFU	SENA UNDI	TE COMMI Ergraduat	FTEE ON Te studies		COURS	E CHANGE/DELETION
EXISTING COURSE,	CHANGES RECON	AMENDED				
Please check appropri	ate revision(s):					
Course number	Credit	Title	Descrip	tion	Prerequisite	Course deletion
Indicate number of ho	ours for: Lecture		Seminar		Tutorial	Lab
FROM				то		
Course Number	CMPT 225			Course N	lumber	
Credits (Units)				Credits (U	Jnits)	
TITLE						
(1) Long title for caler	ndar and schedule, n	o more than 10	0 characters inclu	ding spaces	and punctuation.	
Data structures and	d programming					
(2) Short title for enro DESCRIPTION	ollment and transcrip	ot, no more tha	n 30 characters in	cluding spa	ces and punctuation. PTION	
MACM 101 and or CMPT 128 and ap Students with cred further credit. Qua	ne of CMPT 101, proval as a Biome it for CMPT 201 n ntitative.	104, 125, 126 Idical Enginee nay not take ti	or 128; or aring Major. his course for			
PREREQUISITE				PREREC	QUISITE	
(See abovedidn	't fit.)			MACM and ap Quanti	101 and one of CMPT proval as a Biomedica ative.	125, 126 or 128; or CMPT 128 I Engineering Major.
RATIONALE						
CMPT 101, 104, a	ind 201 have not l	been offered f	or over five year	S.		
Does this course replic	cate the content of a	n previously app	proved course to s	uch an exte	nt that students should n	ot receive credit for both courses?
II so, this should be n e	Fall 2010	raquisite.				

Effective term and year _

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SFU	SEU SENATE COMMITTEE ON UNDERGRADUATE STUDIES				COURSE CHANGE/DELETION		
EXISTING COURSE, C	HANGES RECOM	IMENDED					
Please check appropriat	e revision(s):						
Course number	Credit	Title	Descript	ion	Prerequisite	Course deletion	
Indicate number of hou	rs for: Lecture		Seminar		Tutorial	Lab	
FROM				то			
Course Number	CMPT 250			Course Num	1ber		
Credits (Units)				Credits (Unit	ts)		
TITLE							
Introduction to comp (2) Short title for enroll	outer architecture	t, no more than	30 characters inc	luding spaces a	and punctuation.		
DESCRIPTION CMPT/ENSC150, or instructor. This cou- cannot take both co CMPT 390 may not Quantitative.	r CMPT 290 or 1 rse is identical to urses for credit. take CMPT 250	05 with permise ENSC 250 and Students who I for further cred	sion of d students have taken lit.	DESCRIPT	ION		
PREREQUISITE				PREREQU	ISITE		
(See above. Didn't	fit.)			CMPT/EN students o	ISC150.This course cannot take both co	e is identical to ENSC 250 and urses for credit. Quantitative.	
RATIONALE CMPT 105, 290, an	d 390 have not b	een offered for	r over five years	š.			

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be noted in the prerequisite.

Effective term and year ______

JANUARY 2008

SFU	SENA	TE COMMIT Ergraduati	FEL ON : studies	COURS	COURSE CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECOM	MENDED					
Please check appropris	ate revision(s):		_	_	_		
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of he	ours for: Lecture		Seminar	Tutorial	Lab		
FROM Course Number	CMPT 301		TO Coun	se Number			
Credits (Units)			Cred	its (Units)			
TITLE							
(2) Short title for enre DESCRIPTION	ollment and transcrip	ot, no more than	30 characters including DES	spaces and punctuation. CRIPTION			
CMPT 201 or 225			PRE	REQUISITE IPT 225			

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year _____

XISTING COURSE, CHANGES RECOMMENDED Itase check appropriate revision(s): Course number Credit Inite Description Micate number of hours for: Lecture Seminar Tutorial ROM ROM CMPT 305 Course Number Course Number Course Number CMPT 305 Course Number Course Number CMPT 305 Course Number Course Number Course Number Course Number Credits (Units) TTLE I) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation. Computer simulation and modeling 2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. HEEREQUISITE CMPT 201 or 225, MACM 101, STAT 270. ACMPT 225, MACM 101, STAT 270. ADITION ADITION ADITION ADITION ADITION ADITION CMPT 201 has not been offered for over five years.	SFU	SEN Unt	ATE COMMIT Dergraduati	COURS	COURSE CHANGE/DELETION		
lease check appropriate revision(s): Course number Credit Title Description ROM CMPT 305 Course Number CMPT 305 Course Number Course Number Course Number Check (Units) Credits (Units) Corrent of hours for: Lecture Nore Number CMPT 305 Course Number Not Secon Parameters including spaces and punctuation. Presenter Number Numbe	EXISTING COURSE,	CHANGES RECO	MMENDED				
Course number Credit Title Description Prerequisite Course deletion RoM TO ROM CMPT 305 Course Number Lab To course Number Course Number Course Number Course including spaces and punctuation. Computer simulation and modeling 2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. ESCRIPTION DESCRIPTION REREQUISITE CMPT 201 or 225, MACM 101, STAT 270. ATIONALE CMPT 201 has not been offered for over five years.	Please check appropria	ate revision(s):					
adicate number of hours for: Lecture Seminar Tutorial Lab ROM	Course number	Credit	Title	Description	Prerequisite	Course deletion	
ROM CMPT 305 Course Number credits (Units) Credits (Units) Credits (Units) credits (Units) Credits (Units) Credits (Units) TTLE In the state of	Indicate number of he	ours for: Lecture		Seminar	Tutorial	Lab	
course Number	FROM	01107		то			
credits (Units) Credits (Units) TTLE 1) Long tide for calendar and schedule, no more than 100 characters including spaces and punctuation. Computer simulation and modeling 2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION DESCRIPTION REREQUISITE CMPT 201 or 225, MACM 101, STAT 270. XATIONALE CMPT 201 has not been offered for over five years.	Course Number	CMP1 305		Course	Number		
TTLE 1) Long tide for calendar and schedule, no more than 100 characters including spaces and punctuation. Computer simulation and modeling 2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. PSSCRIPTION DESCRIPTION REREQUISITE CMPT 201 or 225, MACM 101, STAT 270. CMPT 201 or 225, MACM 101, STAT 270. CMPT 201 has not been offered for over five years.	Credits (Units)			Credits	i (Units)		
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2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION DESCRIPTION REREQUISITE PREREQUISITE CMPT 201 or 225, MACM 101, STAT 270. CMPT 225, MACM 101, STAT 270. ATIONALE CMPT 201 has not been offered for over five years.	Computer simulation	on and modeling					
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2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. PESCRIPTION DESCRIPTION REREQUISITE PREREQUISITE CMPT 201 or 225, MACM 101, STAT 270. CMPT 225, MACM 101, STAT 270. ATIONALE CMPT 201 has not been offered for over five years.							
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DESCRIPTION DESCRIPTION REREQUISITE PREREQUISITE GMPT 201 or 225, MACM 101, STAT 270. CMPT 225, MACM 101, STAT 270. ATIONALE CMPT 201 has not been offered for over five years.	(2) Short title for enro	allment and transcr	ipt, no more than	30 characters including s	paces and punctuation.		
DESCRIPTION DESCRIPTION REREQUISITE CMPT 201 or 225, MACM 101, STAT 270. RATIONALE CMPT 201 has not been offered for over five years.							
REREQUISITE PREREQUISITE CMPT 201 or 225, MACM 101, STAT 270. CMPT 225, MACM 101, STAT 270. ATIONALE CMPT 201 has not been offered for over five years.	DESCRIPTION			DESC	RIPTION		
REREQUISITE PREREQUISITE CMPT 201 or 225, MACM 101, STAT 270. CMPT 225, MACM 101, STAT 270. ATIONALE CMPT 201 has not been offered for over five years.							
PREREQUISITE PREREQUISITE CMPT 201 or 225, MACM 101, STAT 270. CMPT 225, MACM 101, STAT 270. ATIONALE CMPT 201 has not been offered for over five years.							
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ATIONALE CMPT 201 has not been offered for over five years.	CMPT 201 or 225,	MACM 101, ST	AT 270.	CMF	PT 225, MACM 101, STA	JT 270.	
CMPT 201 has not been offered for over five years.							
	CMPT 201 has no	t been offered fo	r over five veers	i.			
	2		. erer nro youro				
loes this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses	Does this course replic	cate the content of	a previously appr	oved course to such an e	xtent that students should n	ot receive credit for both courses	

Effective term and year _____

SFU	UNDERGRADUATE STUDIES			COURS	COURSE CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECO	MMENDED					
Please check appropria	ate revision(s):						
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of ho	ours for: Lecture		Seminar	Tutorial	Lab		
FROM			то				
Course Number	CMPT 310		Course	Number			
Credits (Units)			Credit	s (Units)			
TITLE							
Artificial intelligenc	e survey.			·			
(2) Short title for enro	llment and transcri	pt, no more thar	1 30 characters including :	paces and punctuation.			
DESCRIPTION			DESC	RIPTION			
PREREQUISITE	and MACM 101.		PRER	EQUISITE 27 225 and MACM 101.			
			0				
RATIONALE CMPT 201 has no	t been offered for	five years.					
Does this course replic	cate the content of	a previously app	roved course to such an e	xtent that students should n	ot receive credit for both courses?		

If so, this should be **noted in the prerequisite**.

Effective term and year _____

SENATE COMMITTEE ON UNDERGRADUATE STUDIES				COURS	COURSE CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECON	imended					
Please check appropria	te revision(s):	_	_	_	_		
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of ho	urs for: Lecture		Seminar	Tutorial	Lab		
FROM			то				
Course Number	CMPT 318		Course	Number			
Credits (Units)			Credits	(Units)			
TITLE							
(1) Long title for calen	dar and schedule, n	o more than 100) characters including spac	es and punctuation.			
Special topics in co	mputing science						
(2) Short title for enrol	llment and transcrip	ot, no more than	30 characters including s	paces and punctuation.			
DESCRIPTION			DESCI	UPTION			
			50 50				
CMPT 201 or 225.			CMP	EQUISITE T 225.			
RATIONALE							
CMPT 201 has not	been offered for	over five years	5.				
Does this course replic	ate the content of	a previously appr	roved course to such an ex	stent that students should n	ot receive credit for both courses		

Fall 2010

Effective term and year ____

......

SFU	SENA) Unde	FE COMMITTE RGRADUATE S	E ON Tudies	COURS	COURSE CHANGE/DELETION		
EXISTING COURSE, C	HANGES RECOM	MENDED					
Please check appropriat	e revision(s):						
Course number	Credit	Tide	Description	Prerequisite	Course deletion		
Indicate number of hou	irs for: Lecture	S	eminar	Tutorial	Lab		
FROM			то				
Course Number	CMPT 320		Cour	se Number			
Credits (Units)			Credi	its (Units)			
TITLE							
(1) Long title for calend Social implications-	lar and schedule, no	o more than 100 ch	aracters including sp	aces and punctuation.			
(2) Short title for enrol	ment and transcrip	t, no more than 30	characters including	spaces and punctuation.			
DESCRIPTION			DESC	CRIPTION			
a course in computi credit for CMPT 260 Breadth-Science.	ing science and 4) may not take CM	5 units. Students MPT 320 for furth	PRE with A C er credit.	REQUISITE	Breadth-Science.		
RATIONALE							
CMPT 260 has not	been offered for a	over five years.					

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year _____Fall 2010

SFU	SENATE COMMITT Undergraduate	COURS	COURSE CHANGE/DELETION		
EXISTING COURSE, CHANG	ES RECOMMENDED				
Please check appropriate revisi	on(s):				
Course number	Credit 🗖 Title	Description	Prerequisite	Course deletion	
Indicate number of hours for:	Lecture	Seminar	Tutorial	Lab	
FROM		то			
Course NumberC	MPT 340	Cou	rse Number		
Credits (Units)		Cred	lits (Units)	·	
TITLE					
Biomedical computing (2) Short title for enrollment a	nd transcript, no more than 2	30 characters includin	g spaces and punctuation.		
DESCRIPTION		DES	CRIPTION		
PREREQUISITE		PRE	REQUISITE		
Completion of 60 units inc (or 102 or 104 with a grad	luding CMPT 101, 125, 12 e of B or higher).	26 or 128 Co 10	mpletion of 60 units includ 2 with a grade of B or high	ling CMPT 125, 126 or 128 (or er).	
RATIONALE					
CMPT 101 and 104 have	not been offered for over	live years.			

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year _____

SFU	SENATE COMMITTEE ON UNDERGRADUATE STUDIES			COUR	COURSE CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECO	MMENDED					
Please check appropri	ate revision(s):						
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of h	ours for: Lecture		Seminar	Tutorial	Lab		
FROM	0107.054		то	I			
Course Number	CMP1 354		Co	ourse Number			
Credits (Units)	<u></u>	· · · ·	Cr	edits (Units)			
TITLE							
(1) Long title for cale	ndar and schedule,	no more than 100) characters including	spaces and punctuation.			
Database systems	;1						
(2) Short title for enro	ollment and transcr	ipt, no more than	30 characters includi	ing spaces and punctuation.			
DESCRIPTION			DI	ESCRIPTION			
PREREQUISITE	MACM 101		ph C	CEREQUISITE			
			· · ·				
RATIONALE							
CMPT 201 has no	ot been offered fo	r over five years	5.				
Does this course repli	cate the content of	f a previously app	roved course to such :	an extent that students should	not receive credit for both courses		
If so, this should be n	oted in the pr	erequisite.					

Effective term and year _____

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES				COURS	COURSE CHANGE/DELETION		
EXISTING COURSE,	, CHANGES RECO	MMENDED					
Please check appropri	ate revision(s):						
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of h	ours for: Lecture		Seminar	Tutorial	Lab		
FROM Course Number	CMPT 361		TO	e Number	····		
Credits (Units)			Credit	s (Units)			
TITLE							
Introduction to con	nputer graphics						
(2) Short title for enn	ollment and transcri	pt, no more than	30 characters including	spaces and punctuation.			
DESCRIPTION			DESC	RIPTION			
PREREQUISITE CMPT 201 or 225	and MATH 232 o	r 240.	PREF	EQUISITE PT 225 and MATH 232 o	r 240.		
RATIONALE CMPT 201 has no	ot been offered for	over five years	s.				
		-					
Does this course repl	icate the content of	a previously appr	oved course to such an e	xtent that students should n	ot receive credit for both courses?		

Does this course replicate the content of a previously approved course If so, this should be **noted in the prerequisite**.

Effective term and year ______

SFU	SENA UNDI	TE COMMITI Segraduate	TEE ON Studies		COURS	E CHANGE/DELETION
EXISTING COURSE,	CHANGES RECOM	IMENDED				
Please check appropria	ate revision(s):					
Course number	Credit	Title	Descrip	tion	Prerequisite	Course deletion
Indicate number of ho	ours for: Lecture	<u>.</u>	Seminar		Tutorial	Lab
FROM				то		
Course Number	CMPT 363			Course Nun	1ber	
Credits (Units)	·			Credits (Uni	ts)	
TITLE						
(1) Long title for calen	idar and schedule, ne	o more than 100	characters inclu	ding spaces an	d punctuation.	
User interface desi	gn					
(2) Short title for enro	llment and transcrip	st, no more than	30 characters inc	cluding spaces	and punctuation.	
DESCRIPTION				DESCRIPT	ION	
PREREQUISITE				PREREQU	ISITE	
CMPT 201 or 225.				CMPT 22	5.	
RATIONALE CMPT 201 has no	t been offered for	over five years				
Does this course replic If so, this should be ne	cate the content of a bted in the pre	previously appro	oved course to s	ich an extent (that students should n	ot receive credit for both courses?
Effective term and yea	Fall 2010					

SFU	U SENATE COMMITTEE ON UNDERGRADUATE STUDIES			COUF	COURSE CHANGE/DELETION		
XISTING COURSE,	CHANGES RECON	MMENDED					
'lease check appropri	ate revision(s):						
Course number	Credit	Title	Description	n 🛛 Prerequisite	Course deletion		
ndicate number of he	ours for: Lecture		Seminar	Tutorial	Lab		
ROM	CMPT 265		тс)			
Course Number	CMP1 305		C	ourse Number			
Credits (Units)			C	redits (Units)			
TTLE							
Multimedia system 2) Short title for enre	IS Dilment and transcrij	pt, no more that	n 30 characters includ	ling spaces and punctuation.			
DESCRIPTION			D	ESCRIPTION			
PREREQUISITE CMPT 201 or 225			PI	REREQUISITE CMPT 225.			

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year _____

SFU	SENATE COMMITTEE ON UNDERGRADUATE STUDIES					COURSE CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECO	MMENDED						
Please check appropri	ate revision(s):							
Course number	Credit	Title	Description		Prerequisite	Course deletion		
Indicate number of he	ours for: Lecture		Seminar		Tutorial	Lab		
FROM				то				
Course Number	CMP1 379			Course N	lumber	· ·· · · · · · · · · · · · · · · · · ·		
Credits (Units)	· ··	<u> </u>		Credits (U	Jnits)			
TITLE								
(1) Long title for cale	ndar and schedule, 1	no more than 10	0 characters inclu	ding spaces	and punctuation.			
Principles of comp	iler design							
(2) Short title for enro	ollment and transcri	pt, no more than	1 30 characters in	cluding spa	ces and punctuation.			
DESCRIPTION				DESCRI	PTION			
PREREQUISITE				PREREC	QUISITE			
MACM 201, CMP	T 150 and 201 or	225.		MACM	201, CMPT 150 and 3	225.		
CMPT 201 has no	nt heen offered for	over five vear	s					
		•••• ,						
Does this course repli If so, this should be n	cate the content of oted in the pre	a previously app prequisite.	roved course to s	uch an exte	nt that students should n	ot receive credit for both courses?		

Effective term and year ______ Fall 2010

SFU	SENA UND	ATE COMMIT Ergraduati	TEE ON E studies	COURS	COURSE CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECO	MMENDED					
Please check appropri	ate revision(s):		_	_	_		
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of ho	ours for: Lecture		Seminar	Tutorial	Lab		
FROM Course Number	CMPT 383		T0	se Number			
Credits (Units)			Credi	ts (Units)			
TITLE							
(2) Short title for enro DESCRIPTION	ollment and transcri	pt, no more than	30 characters including DES0	spaces and punctuation. CRIPTION			
PREREQUISITE CMPT 201 or 225,	MACM 101.		PRE	REQUISITE PT 225, MACM 101.			
RATIONALE CMPT 201 has no	t been offered for	over five years	5.				

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year _____

SFU	FU senate committee on undergraduate studies				COURS	E CHANGE/DELETION	
EXISTING COURSE,	CHANGES RECO	MMENDED					
Please check appropria	te revision(s):						
Course number	Credit	Title	Description	on	Prerequisite	Course deletion	
Indicate number of ho	urs for: Lecture		Seminar		Tutorial	Lab	
FROM Course Number	CMPT 417		([0 Course Numl	ber		
Credits (Units)			(Credits (Units)			
TITLE							
(1) Long title for calen Intelligent systems	dar and schedule, n	to more than 10	0 characters includi	ng spaces and	punctuation.		
(2) Short title for enro DESCRIPTION	llment and transcri	pt, no more that	n 30 characters inclu I	iding spaces a	nd punctuation. ON		
PREREQUISITE CMPT 201 or 225.			1	PREREQUI CMPT 225	SITE		
RATIONALE CMPT 201 has no	t been offered for	over five year	°S.				
Does this course replic If so, this should be n e	ate the content of 51ed in the pre	a previously app e requisite .	proved course to suc	h an extent tl	nat students should n	ot receive credit for both courses?	
Effective term and yea	Fail 2010						

SFU	SENATE COMMITTEE ON Undergraduate studies			COURS	E CHANGE/DELETION		
EXISTING COURSE,	CHANGES RECON	IMENDED					
Please check appropria	te revision(s):						
Course number	Credit	Title	Description	Prerequisite	Course deletion		
Indicate number of ho	ours for: Lecture		Seminar	Tutorial	Lab		
FROM			то				
Course Number	CMPT 418		Cour	se Number			
Credits (Units)	··		Cred	its (Units)	is (Units)		
TITLE							
(2) Short title for enro	ilment and transcrij	ot, no more thar	a 30 characters including	spaces and punctuation.			
DESCRIPTION			DES	CRIPTION			
PREREQUISITE CMPT 201 or 225.	Recommended:	CMPT 310.	PRE CN	REQUISITE IPT 225. Recommended:	CMPT 310.		
RATIONALE							
CMPT 201 has no	t been offered for	over five year	S.				

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be noted in the prerequisite.

Effective term and year ______ Fall 2010

EXISTING COURSE, CHANGES RECOMMENDED Please check appropriate revision(s): Course number Credit Title Description Prerequisite Course deletion Indicate number of hours for: Lecture Seminat Tutorial Lab FROM T0 Course Number CMPT 499 Course Number Credits (Units) Credits (Units) Credits (Units) Credits (Units) TITLE (1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation. Special topics in computer hardware (2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION DESCRIPTION PREREQUISITE PREREQUISITE CMPT/ENSC 250 or CMPT 390. CMPT 390. FATONALE CMPT 390 has not been offered for over five years.	SFU	SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES			E CHANGE/DELETION
Pleace check appropriate revision(s): Course number Credit Title Description Prerequisite Course deletion Indicate number of hours for: Lecture Seminar Tutorial Lab	EXISTING COURSE, CHANG	JES RECOMMENDED			
Course number Credit Title Description Prerequisite Course deletion Indicate number of hours for: Lecture Seminar Tutorial Lab	Please check appropriate revisi	ion(s):			
Indicate number of hours for: Lecture Seminar Tutorial Lab FROM TO Course Number CMPT 499 Course Number Credits (Units) Credits (Inits) Credits (Inits) Credits (Inits) Credits (Units) Credits (Units) Credits (Units) Credits (Inits) Credits (Units) Credits (Inits)	Course number	Credit DTitle	Description	Prerequisite	Course deletion
FROM T0 Course Number	Indicate number of hours for:	Lecture	Seminar	Tutorial	Lab
Course Number	FROM		то		
Credits (Units) Credits (Units) TITLE (1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation. Special topics in computer hardware (2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION DESCRIPTION PREREQUISITE PREREQUISITE CMPT/ENSC 250 or CMPT 390. RATIONALE CMPT 390 has not been offered for over five years.	Course NumberC	MPT 499	Cour	se Number	
TITLE (1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation. Special topics in computer hardware (2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. (2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION DESCRIPTION PREREQUISITE PREREQUISITE CMPT/ENSC 250 or CMPT 390. CMPT/ENSC 250. RATIONALE CMPT 390 has not been offered for over five years.	Credits (Units)		Cred	its (Units)	
(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation. Special topics in computer hardware (2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation. DESCRIPTION PREREQUISITE PREREQUISITE CMPT/ENSC 250 or CMPT 390. CMPT/ENSC 250. RATIONALE CMPT 390 has not been offered for over five years.	TITLE				
DESCRIPTION DESCRIPTION PREREQUISITE PREREQUISITE CMPT/ENSC 250 or CMPT 390. CMPT/ENSC 250. RATIONALE CMPT 390 has not been offered for over five years.	(2) Short title for enrollment a	and transcript, no more t	han 30 characters including	spaces and punctuation.	
PREREQUISITE PREREQUISITE CMPT/ENSC 250 or CMPT 390. CMPT/ENSC 250. RATIONALE CMPT 390 has not been offered for over five years.	DESCRIPTION		DES	CRIPTION	
RATIONALE CMPT 390 has not been offered for over five years.	PREREQUISITE CMPT/ENSC 250 or CMF	PT 390.	PRE	REQUISITE IPT/ENSC 250.	
RATIONALE CMPT 390 has not been offered for over five years.			-		
CMPT 390 has not been offered for over five years.	RATIONALE				
	CMPT 390 has not been (offered for over five ve			
			als.		

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year _____



SCUS 10-20

FACULTY OF APPLIED SCIENCES

MEMO

Office of the Dean

ASB-9861 Applied Science Bldg

Tel: 778-782-4724 Fax: 778-782-5802

www.fas.sfu.ca

ATTENTION	Bill Krane, Chair SCUS	
	Fred Popowich, Associate Dean,	
FROM	Faculty of Applied Sciences	
	Faculty of Applied Sciences	
RE	Undergraduate Curriculum Changes	
DATE	February 22, 2010	

In addition to SCUS 10-13(a)(i) Systems One Full Program Proposal and SCUS 10-13(b)(ii) Pre-requisite changes which were tabled at the last SCUS meeting, the following changes have been approved by the FAS Undergraduate Curriculum Committee and are appended here for approval by SCUS and recommendation to Senate.

- Revised documentation for SCUS-10-13(b)(i) changes to the first year requirements in the Software Systems major program. Whileincorporating Systems One, it was determined that STAT 101 should not be deleted as proposed at an earlier SCUS meeting, as it may be neededas a pre-requisite for some students:
- 2. New Course Proposal for ENSC 280-3
- 3. Mechatronics Systems Engineering (MSE) calendar changes related to Systems One, ENSC 280 and other previously approved changes.

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SENATE COMMITTEE ON

UNDERGRADUATE STUDIES

I OF 3 PAGES

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ENSC 280

COURSE TITLE

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

AND

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

Eng Meas

CREDITS

Indicate number of credits for: Lecture _____ Seminar _____ Tutorial _____ Lab _____

COURSE DESCRIPTION (FOR CALENDAR). 50-60 WORDS MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

An introduction to Methods to collect and analyse engineering data. Topics include the Engineering data representation, Discrete and continuous probability density functions, Engineering measurements, Error analysis, Introduction to sensor interfaces, Introduction to physical sensors, Introduction to sensor signal conditioning, Noise, Test of hypotheses, Linear and nonlinear regression, and Design of experiments.

PREREQUISITE

PHYS 141 or equivalent. MATH 150 or MATH 151. Students with credit for PHYS 231 cannot take this course for further credit. Students who have taken and passed ENSC 263 "Special Topics in ENSC: Engineering Measurement and Data Analysis" in Spring 2009 and Spring 2010 cannot take this course for further credit.

COREQUISITE

None

SPECIAL INSTRUCTIONS

That is, does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses.? If so, this should be noted in the prerequisiite.

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

RATIONALE FOR INTRODUCTION OF THIS COURSE

This course will replace PHYS 231 in the MSE curriculum. The course is developed to staisfy the CEAB requirements for teaching statistics and probability to our students while presenting the mathematical concepts in applied engineeing format.



SENATE COMMITTEE ON

UNDERGRADUATE STUDIES

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2 OF 3 PAGES

SCHEDULING AND ENROLLMENT INFORMATION

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

This course will first be offered in Spring 2011, and annually thereafter.

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: \Box YES \blacksquare NO Will this be a required or elect	tive course ir	the curriculum?	Required	Elective Elective
What is the probable enrollment when offered? Estimate				
Which of your present CFL faculty have the expertise to offer this course?				
Dr Behraad Bahreyni Professor Ahmad Rad				
Are there any proposed student fees associated with this course other than tuition fees? (If yes, attach mandatory supplementary fee approval form.)	TYES	ИNO		

RESOURCE IMPLICATIONS

NOTE: Senate has approved (S.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 _____

Library report status	Relevant books and supplies were ordered last year and are available in Surrey library.	
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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?

This course is part of the MSE curriculum.

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

The required laboratory and library resources have been provided.

Articulation agreement reviewed?

Not applicable

OTHER IMPLICATIONS



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

3 OF 3 PAGES

APPROVALS

1 Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.

Karp Kort Gpt	Jan 26, 20/0
Chair, Department/School	Date
1 and	Jan 26, 2010
Chair, Faculty Curriculum Committee	Date

Chair, Faculty Curriculum Committee

2 Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.

Jan 26, 2010 Date Dean or designate

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses.

SCIENCE

Other Faculties approval indicated that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

Date	
Date	

SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues 3 being addressed.

COURSE APPROVED BY SCUS (Chair of SCUS):

Date ____

APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.

Modifications to the syllabus for

ENSC280: Engineering Measurement and Data Analysis

Prepared by Dr B. Bahreyni

Course outline as taught in Spring 2009	Proposed course outline for Spring 2011
(1) Data representation Dot plots, Stem-and-Leaf diagrams, Histograms, Box plots, Time series plots, Scatter plots	(1) Data representation Dot plots, Stem-and-Leaf diagrams, Histograms, Box plots, Time series plots, Scatter plots
(2) Introduction to probability Population and sample, Random variables, Mean and variance, Functions of random variables, Independence	(2) Introduction to probability Population and sample, Random variables, Mean and variance, Functions of random variables, Independence
(3) Probability distribution functions Discrete distributions: Binomial, Poisson Continuous distributions: Normal, Lognormal, Exponential, Weibull, Gamma Normal approximations to binomial and Poisson distributions	 (3) Probability distribution functions Discrete and continuous distributions: Binomial, Poisson Continuous distributions: Normal, Lognormal, Exponential, Weibull, Gamma Normal approximations to binomial and Poisson distributions
(4) Error analysis Reporting and using uncertainties, Error propagation, Random and systematic errors	(4) Error analysis Reporting and using uncertainties, Error propagation, Random and systematic errors
(5) Engineering measurement Sensitivity, Accuracy, Precision, Resolution, Quantization, Noise	(5) Engineering measurement Sensitivity, Accuracy, Precision, Resolution, Quantization, Noise
 (6) Point estimation Unbiasedness, Minimum Variance Unbiased Estimators (7) Hypothesis testing 	(6) Sensor interfaces Resistive, Capacitive, Inductive, Piezoelectric, and Solid-state sensors and their interfaces
 z-test, t-test, χ² test, F-test, Analysis of variance, Testing for the goodness of a fit (8) Empirical models 	(7) Introduction to sensors Strain gauges, temperature sensors, pressure sensors, inertial sensors.
 (8) Empirical models Simple linear regression, Multiple regression, Least-square fitting to polynomial models (9) Design of experiments Factorial experiments (10) Statistical process control X_bar and R charts, Process stability and control. 	(8) Sensor signal conditioning Interface electronics for the different sensors, analog signal processing techniques, noise.
	(9) Point estimation Unbiasedness, Minimum-variance unbiased estimators
	(10) Hypothesis testing z-test, <i>i</i> -test, χ^2 test, <i>F</i> -test, Testing for goodness of a fit
	(11) Empirical models Simple linear regression, Multiple regression, Least- square fitting to polynomial models
	(12) Design of experiments Factorial experiments
<i>Textbook: Engineering Statistics</i> , By Montgomery, Runger, Hubele. John Wiley & Sons, Inc., 2008.	<i>Textbook</i> : <i>Statistics for Engineers and Scientists</i> , By <i>W. Navidi</i> , McGraw-Hill, 2007.

Explanation of changes:

Based on our experience with teaching ENSC 263 in spring 2009, we decided to modify the course syllabus so that it better suits the needs of our students. Additionally, professors Rad and Park and I have discussed the status and expectations for our course on Engineering Data Analysis (currently offered as a Special Topics course). Based on the requirements of our program and the CEAB, we came to conclusion that some it was necessary to introduce more engineering aspects into the course while still covering the needed statistical topics. The proposed changes will make the course fit better within our curriculum. In 2009, I dedicated four lectures to engineering applications of statistics and covered topics such as Error analysis (Reporting and using uncertainties, Error propagation, Random and systematic errors, and Calibration) and Engineering measurements (Sensitivity, Accuracy, Precision, Resolution, Quantization, and Methodological elimination of outliers).

ENSC 280 will be the first in a series of courses on sensors and actuators and is prepared such that it will provide the students with the necessary mathematical background to process the data from such transducers. We believed that in order for our students to obtain the engineering perspective, we needed to introduce some introductory information on sensors. This lets the students collect realistic data in their experiments in the lab which they will then analyse using the statistical tools that they learn about in the course. The student will then learn more about the different types of sensors and actuators in courses like ENSC387 and will learn about their fabrication in ENSC331.

The following topics are going to be added to the original syllabus:

- 1- Sensor interfaces: Resistive, Capacitive, Inductive, Piezoelectric, and Solid-state sensors and their interfaces;
- 2- Introduction to sensors: Strain gauges, temperature sensors, pressure sensors, inertial sensors;
- 3- Sensor signal conditioning: Interface electronics for the different sensors, analog signal processing techniques, noise.

To allow for the addition of the above discussions into the lectures, the discussions of "Statistical process control" and "Analysis of variance" will be dropped from the syllabus.

The laboratories that were developed for the course required the students to collect some data by performing a simple engineering experiment and analyse the data using the theory they learnt in lectures. This practical use of statistical theories was very highly appreciated by the students. Therefore, we are also going to increase the number of laboratories to four (from three) and let the students become familiar with two more types of sensors, while practicing other aspects of their statistical knowledge.

Engineering Measurement and Data Analysis (ENSC 280)

Prepared by B. Bahreyni, Assistant professor Mechatronic Systems Engineering, School of Engineering Science

Proposed Course Outline

(1) Data representation

Dot plots, Stem-and-Leaf diagrams, Histograms, Box plots, Time series plots, Scatter plots

(2) Introduction to probability

Population and sample, Random variables, Mean and variance, Functions of random variables, Independence

(3) Probability distribution functions

Discrete and continuous distributions: Binomial, Poisson Continuous distributions: Normal, Lognormal, Exponential, Weibull, Gamma Normal approximations to binomial and Poisson distributions

(4) Error analysis

Reporting and using uncertainties, Error propagation, Random and systematic errors

(5) Engineering measurement

Sensitivity, Accuracy, Precision, Resolution, Quantization, Noise

(6) Sensor interfaces

Resistive, Capacitive, Inductive, Piezoelectric, and Solid-state sensors and their interfaces

(7) Introduction to sensors

Strain gauges, temperature sensors, pressure sensors, inertial sensors.

(8) Sensor signal conditioning

Interface electronics for the different sensors, analog signal processing techniques, noise.

(9) Point estimation

Unbiasedness, Minimum-variance unbiased estimators

(10) Hypothesis testing

z-test, t-test, 12 test, F-test, Testing for the goodness of a fit

(11) Empirical models

Simple linear regression, Multiple regression, Least-square fitting to polynomial models

(12) Design of experiments Factorial experiments

Contact hours:

3 lecture hours per week, 1 tutorial hour per week

Recommended textbook

Statistics for Engineers and Scientists, 2nd Ed By William Navidi, McGraw-Hill, 2007

Evaluation

Evaluation Component/Percentage of overall mark (out of 100)5 Assignments5%4 Laboratories10%4 Quizzes20%1 Midterm exam15%Final exam50%

The midterm and final are closed book examinations of the course material. Students are permitted to use a crib sheet consisting of one $8 \frac{1}{2} \times 11$ paper (double-sided).

Calendar change for Mechatronic Systems Engineering (MSE) Program

1. Proposed 1st year Systems One replacing Tech One for Mechatronic Systems Engineering (MSE) Program¹

From:	То:
Term One (Fall)	Term One (Fall)
CMPT 128-3 Introduction to Computing Science	CMPT 128-3 Introduction to Computing Science
and Programming for Engineers	and Programming for Engineers
MATH 151-3 Calculus I	MATH 151-3 Calculus I
PHYS 140-4 Studio Physics – Mechanics and	PHYS 140-4 Studio Physics – Mechanics and
Modern Physics	Modern Physics
TECH-106-3 Spatial Thinking and Communicating	ENSC 104-3 Engineering Graphics and Design
TECH 114-3 Technology in Everyday Contexts	<u>Cmpl I-3 first complementary elective</u>
and one of	and one of
CHEM 120-3 General Chemistry I	CHEM 120-3 General Chemistry I
CHEM 121-4 General Chemistry and Laboratory I	CHEM 121-4 General Chemistry and Laboratory I
19 or 20 units	19 or 20 units
Term Two (Spring)	Term Two (Spring)
Cmpl-I-3-first complementary elective	ENSC 106-3 Applied Science, Technology and
ENSC 182-3 Mechatronics Design 1	Society*
MATH 152-3 Calculus II	ENSC 105W-3 Process, Form, and Convention
MATH 232-3 Elementary Linear Algebra	in Professional Genres
PHYS 141-4 Studio Physics – Optics, Electricity	ENSC 182-3 Mechatronics Design I
and Magnetism*	MATH 152-3 Calculus II
TECH-101-3W Communication, Teamwork and	MATH 232-3 Elementary Linear Algebra
Collaborative Process	PHYS 141-4 Studio Physics – Optics, Electricity
19 units	and Magnetism
	19 units

¹ SFU Calendar 2009/2010 Page 86 Faculty of Applied Sciences

2. Schedule changes incorporating ENSC 280 for MSE Program

From:	To:
Term Four (Spring)	Term Four (Spring)
Students complete all of	Students complete all of
 ENSC 226-4 Electronic Circuits* ENSC 282-3 Kinematics and Dynamics of Rigid Bodies and Mechanisms* ENSC 283-3 Introduction to Fluid Mechanics* ENSC 380-3 Linear Systems* MACM 316-3 Numerical Analysis I PHYS 231-3 Physics Laboratory II* 19 units 	ENSC 226-4 Electronic Circuits* ENSC 282-3 Kinematics and Dynamics of Rigid Bodies and Mechanisms* ENSC 283-3 Introduction to Fluid Mechanics* ENSC 380-3 Linear Systems* MACM 316-3 Numerical Analysis I ENSC 280-3 Engineering Measurement and Data Analysis* 19 units
Term Five (Fall)	Term Five (Fall)
ENSC 311-3 The Business of Engineering I: Fundamentals ENSC 329-4 Introduction to Digital Logic ENSC 381-3 Systems Modelling and Simulation ENSC 382-3 Machine Design PHYS 344-3 Thermal Physics ² ENSC 387-4 Introduction to Electromechanical Sensors and Actuators 20 units	ENSC 1-4 First Engineering elective ENSC 329-4 Introduction to Digital Logic ENSC 381-3 Systems Modelling and Simulation ENSC 382-3 Machine Design ENSC 388-3 Engineering Thermodynamics and Heat Transfer ³ ENSC 387-4 Introduction to Electromechanical Sensors and Actuators 21 units
Term Six (Summer)	Term Six (Summer)
ENSC 312 3 The Business of Engineering II: Applications and Commercialization ENSC 331-3 Introduction to MEMS ENSC 332-4 Microprocessors and Interfacing ENSC 383-4 Feedback Control Systems ENSC 384-4 Mechatronics Design II 18 units	ENSC 311-3 The Business of Engineering 1: Fundamentals ENSC 331-3 Introduction to MEMS ENSC 332-4 Microprocessors and Interfacing ENSC 383-4 Feedback Control Systems ENSC 384-4 Mechatronics Design II 18 units
Term Seven (Spring)	Term Seven (Spring)
ENSC 1-4 First Engineering elective ENSC II-4 second Engineering Science elective ENSC 305-1 Project Documentation and Team Dynamics ENSC 451-4 Real Time and Embedded Systems ENSC 441-3 Capstone Design Technical Project I 16 units	ENSC 312-3 The Business of Engineering II: Applications and Commercialization ENSC II-4 second Engineering Science elective ENSC 305-1 Project Documentation and Team Dynamics ENSC 451-4 Real Time and Embedded Systems ENSC 441-3 Capstone Design Technical Project I 15 units

² Already approved in 2008-2009 but not reflected in the Calendar ³ Already approved in 2008-2009 but not reflected in the Calendar