The Graduate School



5775 Stodder Hall, Room 42 Orono, Maine 04469-5775 Tel: 207.581.3291 Fax: 207.581.3232 umaine.edu/graduate

CURRICULUM COMMITTEE REPORT

The Curriculum Committee met on November 3rd, 2015 and recommends the following courses to the Graduate Board for approval at its December 17, 2015 meeting.

New Courses:

COS 540 Computer Networks SFA 672 Dynamic Technical Presentations

Modifications:

SIE 503 Principles of Experimental Design SIE 505 Formal Foundations for Information Science SIE 507 Information System Programming SIE 510 Geographic Information System Applications SIE 512 Spatial Analysis SIE 515 Human Computer Interaction SIE 516 Virtual Reality: Research and Applications SIE 555 Spatial Database System SIE 557 Database System Applications SIE 558 Real-time Sensor Data Streams SIE 559 Geosensor Network SIE 570 Spatial Cognition Computing SIE 571 Pattern Recognition and Robotics SIE 590 Information System Internship SIE 598 Selected Studies in Spatial Engineering SIE 699 Graduate Thesis/Research SMS 691 Marine Science Seminar

Eliminations:

SIE 565 Reasoning with uncertainty in Spatial Info. Systems

The Curriculum Committee met on December 1st, 2015 and recommends the following courses to the Graduate Board for approval at its December 17, 2015 meeting.

New Courses.

FSN 506 Nutritional Assessment SFA 551 Infectious diseases and food safety-from plants to humans SED 585 Communication for Students with Autism Spectrum Disorders

Modifications:

ERS 560 Marine Geology SMT 507 Research-related curriculum Development in Science and Mathematics (title change)



RECEIVED

OCT 1 5 2015 GRADUATE SCHOOL

NEW COURSE PROPOSAL FORM FOR GRADUATE COURSES

GRADUATE PROG	RAM/UNIT	Spatia	I Information S	cience a	nd Engineering	
COURSE DESIGNA	FOR (cos cou	JRSE NUMBER	540	EFFECTIVE SEMESTER	Spring 2016
COURSE TITLE	Comput	er Networks			х.	
REQUESTED						
			a second a second second		ourses and for the ad	dition
of an <u>elec</u>	tronic lea	rning compo	onent ¹ to an	existing	course.	
NEW COURSE (ch	eck all th	at apply and	complete Sec	tion 1):		
XNew Course						
New Course with	Electronic	Learning ¹				
Experimental						
MODIFICATION	Check all	that apply a	nd complete S	Section 2	2):	
Designator Chan		Prerequisit			, her (specify) COS 440)
Number Change		Credit Cha				-
Title Change			ig (must be at lea	ast 400-le	vel) ²	
Description Char	nge		f Electronic Lear			
ELIMINATION:						
Course Eliminati	on				9	
ENDORSEMENTS	6 (Print na	ame)	D	ate	Sign In	itials
Leader, Initiating	g Departr	nent/Unit(s)	1	1	17	\sim
Max Egenhofer			9/2	3/15-	/m/0	3
College(s) Curric	ulum Co	mmittee Cha			1	6.
Timothy Cole	Jesani		101	6/15	QA	
College Dean(s)					ali	_
Emily Haddad			10.	13-15	545	-
Graduate Schoo	bl	7				
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SECTION 1 (FOR NEW COURSE PROPOSALS):

Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

COS 540: Computer Networks Prerequisites: COS 335 or permission of instructor

Credit Hours: 3

Provides an introduction to the concepts, protocols, technologies and principles of computer networking. Utilizes the technologies and protocols of the Internet as the primary vehicle for studying the fundamental concepts of computer networking. Uses a "top-down" approach to the study of the Internet, beginning with the "application layer", with such technologies as the Web and HTTP, peer-to-peer applications, and electronic mail. It then examines the other four layers of the Internet protocol stack (the transport, network, link, and physical layers), and the services they provide that enable the development of increasingly sophisticated and powerful networking applications.

Notes: COS 440 and COS 540 may not both be taken for degree credit.

Components (type of course/used by Student Records for MaineStreet) – Multiple selections are possible for courses with multiple non-graded components:

Applied Mus	ic ,	Clinical	Field Experi	ence/Internship	Independen	it Study
Laboratory	X_	_Lecture/Seminar	Recitation	Research	Studio	Thesis

Text(s) planned for use:

Computer Networking: A Top-Down Approach, by Kurose and Ross, Addison-Wesley, 2012

Course Instructor (include name, position, teaching load):

Phillip Dickens, School of Computing and Information Science

Reason for new course:

The internet is a transformative technology in today's society and a topic of significant interest to students in computer science. This course will provide a basic understanding of the tools and technologies utilized in the Internet, and enable students to create their own networking applications.

This course is a breadth requirement for all COS PhD students, as specified in the graduate catalog.

Does the course addition require additional department or institutional facilities, support and/or resources, e.g. new lab facilities, computer support and services, staffing (including graduate teaching assistants), or library subscriptions and resources?

(X) No. The department will not request additional resources for this course.

() Yes. Please list additional resources required and note how they will be funded or supported.

What other departments/programs are affected (e.g. course overlap, prerequisites)? Have affected departments/programs been consulted? Any concerns expressed? Please explain.

N/A

How often will this course be offered? Will offering this course result in overload salary payments, either through the college or CED, either to the instructor of this course or to anyone else as a result of rearranging teaching assignments?



RECEIVED OCT 2 9 2015 GRADUATE SCHOOL

GRADUATE PROGRAM/UN	IT	School of Food and Agriculture						
COURSE DESIGNATOR	SFA	COURSE NUMBER	672 EFFECTIVE SEMESTER		Spring 2016			
COURSE TITLE	Dynamic Technical Presentations							
REQUESTED ACTIO	N:							
NOTE: A complet	e sylla	bus is required for	all new courses	and for the a	ddition			
of an <u>electronic le</u>	arning	component ¹ to a	in existing cours	е,				
NEW COURSE (check all t New Course New Course with Electroni Experimental			ection 1):					
MODIFICATION (Check a Designator Change Number Change Title Change Description Change ELIMINATION:	Pr Cr	apply and complet rerequisite Change redit Change ross Listing (must be at ddition of Electronic Le	Other (spe	(account of the second se				
Course Elimination ENDORSEMENTS (Print r	name)		Date	Sign In	itials			
Leader, Initiating Departm		nit(s)						
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College(s) Curriculum Com			_//					
College Dean(s) デルひられ必のれ Graduate School	/n	ISFA	10/27/15	ENQ				
<u></u>		· · ·						

1. If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic dellvery will be managed. Please consult with the Office of Distance Education for more information.

2. Courses cross-listed below 400-level require the permission of the Graduate School.

SECTION 1 (FOR NEW COURSE PROPOSALS):

Proposed Catalog Descrip	ption (include designator,	, number, title, prerequisites, credit	t hours):	
	Fechnical Presentat		4	
		iterature information,		
May be repeated for	r credit up to three tir	nes.		
Prerequisites & No	otes			
FSN 571 or permise	sion.			
Credits: 1				
Components (type of cour	rse/used by Student Reco	rds for MaineStreet) – Multiple sel	ections are possible for cou	rses with
multiple non-graded comp	_			
Applied Music	Clinical	Field Experience/Internship	Research	Studio
Laboratory	X Lecture/Seminar	Recitation	Independent Study	Thesis
Text(s) planned for use:				
L		- 1 - N		
Course Instructor (include	e name, position, teaching	g load):		
Dr. Tsutomu Ohno				
Reason for new course:				
programs. The focus scientific and public Does the course addition r computer support and serv No. The department w	us of this course is c presentations, spo require additional departr vices, staffing (including g vill not request additional		tyles appropriate for format. ort and/or resources, e.g. rary subscriptions and reso	r both
OYes. Please list additio	mal resources required ar	nd note how they will be funded or	supported.	
and the second sec	The second	e.g. course overlap, prerequisites)?	Have affected department	s/programs
been consulted? Any con	icents expressed r Prease	explain.		
SFA 672 is potentia	Ily open to graduat	e students from other pro	grams if they wish t	o enroll.
		g this course result in overload sala anyone else as a result of rearrangi	and the second s	gh the college
every spring, possibly e	very semester. It will r	not be overload, so will not resu	lt in any overload paym	ents.



School of C	Computing and Information Science				
COURSE NUMBER	503 EFF	ECTIVE SEMESTER	Spring 2016		
Principles	of Experim	ental Design			
of an electronic learning component ¹ to an exist NEW COURSE (check all that apply and complete Section New Course New Course with Electronic Learning ¹ Experimental MODIFICATION (Check all that apply and complete Sector Designator Change Number Change Title Change Title Change Cross Listing (must be at least 44)					
me)	Date	Sign Init	ials		
nt/Unit(s) IS ittee Chair(s) (If applicable)	9/2°/ 101611 1016113	is And	1g		
	10-6-15	- HES			
	COURSE NUMBER Principles of Principles of Syllabus is required f ning component ¹ to t apply and complete earning ¹ that apply and complete earning ¹ Trerequisite Change Credit Change Credit Change Addition of Electronic me) t/Unit(s) IS	COURSE NUMBER 503 EFF Principles of Experim syllabus is required for all new of ning component ¹ to an existing t apply and complete Section 1): earning ¹ that apply and complete Section 1): earning ¹ Date 10 The section 1 is apply and complete Section 1): earning ¹ that apply and complete Section 1): earning ¹ Date 10 10 10 10 10 10 10 10 10 10	Principles of Experimental Design cyllabus is required for all new courses and for the ad ning component ¹ to an existing course. t apply and complete Section 1): earning ¹ that apply and complete Section 2): Prerequisite Change Other (specify) Credit Change Cross Listing (must be at least 400-level) ² Addition of Electronic Learning Component ¹		

1. If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic delivery will be managed. Please consult with the Office of Distance Education for more information.

2. Courses cross-listed below 400-level require the permission of the Graduate School.

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 503 - Principles of Experimental Design

This is an interdisciplinary course designed primarily for first year graduate students and advanced standing undergraduates who plan to engage in scientific research. The course covers topics in: (1) design of experiments, (2) modern experimental techniques and Instrumentation, and (3) data collection, organization, and statistical analysis techniques.

Prerequisites & Notes SIE 501 or permission

Credits: 1

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 503 - Principles of Experimental Design

This is an interdisciplinary course designed primarily for first year graduate students and advanced standing undergraduates who plan to engage in scientific research. The course covers topics in: (1) design of experiments, (2) modern experimental techniques and instrumentation, and (3) data collection, organization, and statistical analysis techniques.

Prerequisites & Notes SIE 501 or instructor permission

Credits: 1

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

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GRADUATE PROGRAM/UNIT	School of (Computing and Information Science					
		505 EFFECTIVE	SEMESTER	Spring 2016			
COURSE TITLE	Formal Founda	tions for Informa	tion Science				
REQUESTED ACTION: NOTE: A complete syllabus is required for all new courses and for the addition of an electronic learning component ¹ to an existing course. NEW COURSE (check all that apply and complete Section 1): New Course New Course with Electronic Learning ¹ Experimental MODIFICATION (Check all that apply and complete Section 2): Designator Change Prerequisite Change Title Change Credit Change Title Change Cross Listing (must be at least 400-level) ² Description Change Addition of Electronic Learning Component ¹							
ENDORSEMENTS (Print	name)	Date	Sign Ini ^r	tials			
Max Egenhofer, Director, College(s) Curriculum Co	Leader, Initiating Department/Unit(s) Max Egenhofer, Director, SCIS College(s) Curriculum Committee Chair(s) [if applicable]		An.	a			
Timothy M. Cole Laura Arlesani		10/6/15	AA				
College Dean(s) Emily Haddad, Dean, CL4 	AS	10-6-15	BA	1			
Graduate School							

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 505 - Formal Foundations for Information Science

Increases student's understanding of the approach to information systems and science by formalisms. Draws on mathematics to increase familiarity with formal syntax and language, develops understanding and technical ability in handling structures relevant to information systems and science. Includes a review of fundamental material on set theory, functions and relations, graph theory, and logic; examines a variety of algebraic structures; discusses formal languages and the bases of computation.

Prerequisites & Notes SIE or MSIS student or permission of instructor.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 505 - Formal Foundations for Information Science

Increases student's understanding of the approach to information systems and science by formalisms. Draws on mathematics to increase familiarity with formal syntax and language, develops understanding and technical ability in handling structures relevant to information systems and science. Includes a review of fundamental material on set theory, functions and relations, graph theory, and logic; examines a variety of algebraic structures; discusses formal languages and the bases of computation.

Prerequisites & Notes Graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

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GRADUATE PROGRAM/UNI	School of Computing and Information Science					
COURSE DESIGNATOR	SIE	COURSE NUMBER	507	EFFECTIVE SEN	IESTER	Spring 2016
COURSE TITLE	Information	ı Syste	m Programmi	ng		
of an <u>electro</u> NEW COURSE (check New Course New Course with Electron Experimental	nplete nic lea k all th ectronic	N: e syllabus is required f arning component ¹ to nat apply and complete	for all <u>r</u> o an ex e Sectio lete Sec	tisting courses and tisting course. on 1): Con 2): Other (specify 400-level) ²	d for the ac	dition
ELIMINATION:						
Course Elimination						
ENDORSEMENTS (P	Print n	ame)	0	Date	Sign Init	ials
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Timothy M. Cole		mittee Chair(s) (if applicable)	10	letis 1	The	
College Dean(s)						
Emily Haddad, Dean	, CLAS		10-	-6-15	SAL	
Graduate School			1			

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 507 - Information Systems Programming

Programming for those envisioning careers focused on developing and managing information systems and databases as opposed to software design. Data structures, algorithms, and their analysis. Lec. 3.

Prerequisites & Notes SIE or MSIS student or permission of instructor.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 507 - Information Systems Programming

Programming for those envisioning careers focused on developing and managing information systems and databases as opposed to software design. Data structures, algorithms, and their analysis. Lec. 3.

Prerequisites & Notes Graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

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GRADUATE PROGRAM/UNIT School of Computing and Information Scien					ice		
COI	URSE DESIGNATOR	SIE	COURSE NUMBER	510	EFFECTIVE SEN	AESTER	Spring 2016
COL	URSE TITLE		Geographic Inf	ormation	n System Appl	ications	
REQUESTED ACTION: NOTE: A complete syllabus is required for all new courses and for the addition of an electronic learning component ¹ to an existing course. NEW COURSE (check all that apply and complete Section 1): New Course New Course with Electronic Learning ¹ Experimental MODIFICATION (Check all that apply and complete Section 2): Designator Change Prerequisite Change Title Change Credit Change Title Change Cross Listing (must be at least 400-level) ² Description Change Addition of Electronic Learning Component ¹					'n		
	ENDORSEMENTS (Prin	nt nam	ie)	Dat	e	Sign Initials	11
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	College Dean(s) Emily Haddad, Dean, C Graduate School	LAS		10-6-	15	37HA-	
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1. If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic delivery will be managed. Please consult with the Office of Distance Education for more information.

2. Courses cross-listed below 400-level require the permission of the Graduate School.

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 510 - Geographic Information Systems Applications

Introduces both conceptual and practical aspects of developing GIS applications. Covers application areas from natural resourse planning cthrough transportation, cadastral and land information systems and their spatial modeling requirements, and application development from requirement analysis to database design and implementation.

Prerequisites & Notes ISE 201, or SIE 509 or permission.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 510 - Geographic Information Systems Applications

Introduces both conceptual and practical aspects of developing GIS applications. Covers application areas from natural resource planning through transportation, cadastral and land information systems and their spatial modeling requirements, and application development from requirement analysis to database design and implementation.

Prerequisites & Notes SIE 509 or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UN	IT	School of	School of Computing and Information Science					
COURSE DESIGNATOR	SIE	COURSE NUMBER	512 EFFEC	TIVE SEMESTER	Spring 2016			
COURSE TITLE		<i></i>	Spatial Analysi	S				
of an <u>electronic</u> NEW COURSE (check all New Course New Course with Electro	TE: A complete syllabus is required for all new courses and for the add in electronic learning component ¹ to an existing course. SE (check all that apply and complete Section 1): rse rse with Electronic Learning ¹ ntal TION (Check all that apply and complete Section 2): or Change □ Credit Change □ Credit Change □ Cross Listing (must be at least 400-level) ² on Change □ Addition of Electronic Learning Component ¹							
ENDORSEMENTS (Print	name	e)	Date	Sign Initials				
Leader, Initiating Depart Max Egenhofer, Director College(s) Curriculum Co Timothy M. Cole College Dean(s) Emily Haddad, Dean, CL Graduate School	tment/ r, SCIS mmitt	/Unit(s)	9/29/15 10/6/15 10/6/15 10-6-15	And G Ga EAU	2			
				Y. Contraction				

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 512 - Spatial Analysis

Introduces students to techniques for spatial analysis. Covers methods and problems in spatial data sampling, issues in preliminary or exploratory analysis, problems in providing numerical summaries and characterizing spatial properties of map data and analysis techniques for univariate and multivariate data. Students will be responsible for completing several hands-on exercises.

Prerequisites & Notes

an introductory statistics course, graduate standing or instructor permission.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 512 - Spatial Analysis

Introduces students to techniques for spatial analysis. Covers methods and problems in spatial data sampling, issues in preliminary or exploratory analysis, problems in providing numerical summaries and characterizing spatial properties of map data and analysis techniques for univariate and multivariate data. Students will be responsible for completing several hands-on exercises.

Prerequisites & Notes

Introductory statistics course and graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UN	IT	School of Computing and Information Science					
COURSE DESIGNATOR	SIE	COURSE NUMBE	R 515	EFFECTIVE S	EMESTER	Spring 2016	
	COURSE TITLE Human Computer Interaction						
of an <u>electronic</u> NEW COURSE (check all New Course New Course with Electro Experimental	complete syllabus is required for all new courses and for the addition tronic learning component ¹ to an existing course. neck all that apply and complete Section 1): the Electronic Learning ¹ (Check all that apply and complete Section 2): nge Prerequisite Change Other (specify) Credit Change Cross Listing (must be at least 400-level) ² nge Addition of Electronic Learning Component ¹					on	
ENDORSEMENTS (Print	t name	2)	Date		Sign Initials		
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			<u></u>				

^{1.} If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic delivery will be managed. Please consult with the Office of Distance Education for more information.

^{2.} Courses cross-listed below 400-level require the permission of the Graduate School.

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 515 - Human Computer Interaction

Students are introduced to the fundamental theories and concepts of human-computer interaction (HCI). Topics covered include: interface design and evaluation, usability and universal design, multimodal interfaces (touch, gesture, natural language), virtual reality, and spatial displays.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 515 - Human Computer Interaction

Students are introduced to the fundamental theories and concepts of human-computer interaction (HCI). Topics covered include: interface design and evaluation, usability and universal design, multimodal interfaces (touch, gesture, natural language), virtual reality, and spatial displays.

Prerequisites & Notes

Programming experience and graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



SIE	COURSE NUMB	ER 516	EFFECTIVE SEMESTER	C
				Spring 2016
	Virtual Rea	lity: Reseau	rch and Applications	61
e sylla earnin hat ap ic Learn II that X P C C C	g component ¹ to oply and complete ning ¹ : apply and compl rerequisite Change iredit Change iross Listing (must be	e Section 1): ete Section 01 at least 400-le	2): ther (specify)	DN
name)		Date	Sign Initials	
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	hat ap ic Learn II that X P C C C C A name) nent/L SCIS		N: ce syllabus is required for all new comparing component ¹ to an existing to an existing that apply and complete Section 1): ic Learning ¹ Ill that apply and complete Section In Credit Change In Addition of Electronic Learning Complete In ame) Date In amet Chair(s) [if applicable] In apply applicable] In apply applicable] In apply apply applicable]	It hat apply and complete Section 1): ic Learning ¹ If that apply and complete Section 2): If that apply applies a section 2): If the applicable a section 2): If the applicable a section 2):

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 516 - Virtual Reality: Research and Applications

This course is designed to provide students with an overview of the basic principles of virtual reality (VR) and virtual environment technology (VET). The goal is to learn enough about the strengths and limitations of VR technology in order to be able to construct simple immersive environments as well as to understand the human factors and cognitive issues that should be considered when using this medium.

Prerequisites & Notes none

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 516 - Virtual Reality: Research and Applications

This course is designed to provide students with an overview of the basic principles of virtual reality (VR) and virtual environment technology (VET). The goal is to learn enough about the strengths and limitations of VR technology in order to be able to construct simple immersive environments as well as to understand the human factors and cognitive issues that should be considered when using this medium.

Prerequisites & Notes

Programming experience and graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

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GRADUATE PROGRAM/UNIT School of Computing and Information Science					ence	
COURSE DESIGNATOR	SIE	COURSE NUMBER	555	EFFECTIVE SEMESTER	Spring 2016	
COURSE TITLE Spatial Database System						
	c learr c learr all that ronic Le ck all th	yllabus is required f ning component ¹ to apply and complete earning ¹	e Section : ete Section : ete Sectio	1): on 2): Other (specify)	ition	
Description Change	×	Addition of Electronic	Learning Co	omponent ¹		
ELIMINATION:						
ENDORSEMENTS (Pri	nt nam	ne)	Date	e Sign Initial	IS	
Leader, Initiating Depa Max Egenhofer, Direct College(s) Curriculum (or, SCI	S	<u>9/29/</u> 10/61	15 The	\sum	
Timothy M. Cole			10/6/	is da		
College Dean(s) Emily Haddad, Dean, (CLAS		10-8-	15 Off		

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 555 - Spatial Database Systems

Covers internal system aspects of spatial database systems. Layered database architecture. Physical data independence. Spatial data models. Storage hierarchy. File organization. Spatial index structures. Spatial query processing and optimization. Transaction management and crash recovery. Commercial spatial database systems.

Prerequisites & Notes SIE 550 and programming experience in Java, C++ or C.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 555 - Spatial Database Systems

Covers internal system aspects of spatial database systems. Layered database architecture. Physical data independence. Spatial data models. Storage hierarchy. File organization. Spatial index structures. Spatial query processing and optimization. Transaction management and crash recovery. Commercial spatial database systems.

Prerequisites & Notes Programming experience and graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Prereq: Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

Distance Offering: Currently teaching other distance courses in our graduate curriculum over many years and will manage those students taking this course by distance in a similar manner.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT	School of C	omputing an	d Information Sci	ence
COURSE DESIGNATOR	COURSE NUMBER		TIVE SEMESTER	Spring 2016
OURSE TITLE	Database	System App	lications	
REQUESTED ACTION:		,		
NOTE: A complete syllab of an <u>electronic learning</u>				on
NEW COURSE (check all that app		ction 1):		
New Course with Electronic Learnir Experimental	ng ¹			
Number Change Cree Title Change Cree	apply and complete erequisite Change edit Change oss Listing (must be at le dition of Electronic Lear	Other (sp east 400-level) ²	1	
ENDORSEMENTS (Print name)		Date	Sign Initials	
Leader, Initiating Department/Un Max Egenhofer, Director, SCIS	it(s) J	129/15	120	
College(s) Curriculum Committee Timothy M. Cole Kaura AMesani	Chair(s) [if applicable]	10/6/15	The	
College Dean(s) Emily Haddad, Dean, CLAS	/	6-6-15	5AH-	
Graduate School				

If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic delivery will be managed. Please consult with the Office of Distance Education for more information.
 Courses cross-listed below 400-level require the permission of the Graduate School.

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 557 - Database System Applications

Study, design and implementation of object-relational database system applications. Introduction to database systems. Integrating database systems with programs. Web applications using database systems. Final database project.

Prerequisites & Notes SIE 507

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 557 - Database System Applications

Study, design and implementation of object-relational database system applications. Introduction to database systems. Integrating database systems with programs. Web applications using database systems. Final database project.

Prerequisites & Notes Graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT	School of	School of Computing and Information Science					
COURSE DESIGNATOR	COURSE NUMBER	558	FFECTIVE SEMEST	ER Spring 2016			
COURSE TITLE	Real-tim	e Sensor	Data Streams				
REQUESTED ACTION: NOTE: A complete sy of an <u>electronic learn</u>	llabus is required fo			ne addition			
Image: Number Change Image Image: Title Change Image	arning ¹	ete Section	n 2): Other (specify) 				
ENDORSEMENTS (Print nam	ne)	Date	Sig	n Initials			
Leader, Initiating Department Max Egenhofer, Director, SCIS College(s) Curriculum Commit Timothy M. Cole Laura Artesini College Dean(s)	S	9/29/		NG mc			
Emily Haddad, Dean, CLAS Graduate School		10-0-1	<u>s 4</u> 5	HT			

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 558 - Real-time Sensor Data Streams

This course is an introduction into the technology of sensor data stream management. This data management technology is driven by computing through sensors and other smart devices that are embedded in the environment and attached to the Internet, constantly streaming sensed information. With streams everywhere, Data Stream Engines (DSE) have emerged aiming to provide generic software technology similar to that of database systems for analyzing streaming data with simple queries in real-time. Sensor streams are ultimately stored in databases and analyzed using scalable cloud technologies.

Prerequisites & Notes

Graduate standing, programming experience in Java, C++, or C, or permission of the instructor.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 558 - Real-time Sensor Data Streams

This course is an introduction into the technology of sensor data stream management. This data management technology is driven by computing through sensors and other smart devices that are embedded in the environment and attached to the Internet, constantly streaming sensed information. With streams everywhere, Data Stream Engines (DSE) have emerged aiming to provide generic software technology similar to that of database systems for analyzing streaming data with simple queries in real-time. Sensor streams are ultimately stored in databases and analyzed using scalable cloud technologies.

Prerequisites & Notes Programming experience in Java, C++ or C or instructor permission.

Credits: 3

Reason for course modification:

Prereq: Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

Distance Offering: Currently teaching other distance courses in our graduate curriculum over many years and will manage those students taking this course by distance in a similar manner.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNI	School of	of Computing and Information Science					
COURSE DESIGNATOR	SIE	COURSE NUMBER	559	EFFECTIVE SE	MESTER	Spring 2016	
COURSE TITLE		Ge	eosensor	Network			
	l ete sy : learn Il that onic Le k all th	yllabus is required f ning component ¹ to apply and complete earning ¹	e Section ete Section	ing course. 1): on 2):] Other (specify)	for the addit	ion	
Description Change ELIMINATION: Course Elimination ENDORSEMENTS (Prin		Addition of Electronic	Learning C Dat		Sign Initials		
Leader, Initiating Depar Max Egenhofer, Directo College(s) Curriculum Co Timothy M. Cole Kawa Artesani College Dean(s) Emily Haddad, Dean, Co Graduate School	or, SCIS	5	9/29/ 1010 1010	115 115 115	m76 The AA		

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 559 - Geosensor Networks

Readily available technology of ubiquitous wireless communication networks, the miniaturization of computing and storage platforms as well as the development of novel microsensors and sensor materials has lead to the technology of wireless geosensor networks (GSN). Geosensor networks have changed the type of dynamic environmental phenomena that can be detected, monitored and reacted to, often in real-time. In this course, we will survey the field of wireless geosensor networks, and explore the state of the art in technology and algorithms to achieve energy-efficient, robust and decentralized spatial computing.

Prerequisites & Notes

Graduate standing, programming experience in Java, C++, or C, or permission of the Instructor.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 559 - Geosensor Networks

Readily available technology of ubiquitous wireless communication networks, the minlaturization of computing and storage platforms as well as the development of novel microsensors and sensor materials has lead to the technology of wireless geosensor networks (GSN). Geosensor networks have changed the type of dynamic environmental phenomena that can be detected, monitored and reacted to, often in real-time. In this course, we will survey the field of wireless geosensor networks, and explore the state of the art in technology and algorithms to achieve energy-efficient, robust and decentralized spatial computing.

Prerequisites & Notes

Programming experience in Java, or C++, or instructor permission,

Credits: 3

Reason for course modification:

Prereq: Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

Distance Offering: Currently teaching other distance courses in our graduate curriculum over many years and will manage those students taking this course by distance in a similar manner.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT School of Co				omputing and Information Science				
COURSE DESIGNATOR	SIE	COURSE NUMBER	570	EFFECTIVE SEM	ESTER	Spring 2016		
		Spatial Co	gnitic	on Computing				
of an <u>electro</u> NEW COURSE (check New Course New Course with Ele Experimental	nplete nic lea k all th ectronic heck all	syllabus is required for arning component ¹ to at apply and complete	an ex Sectio ete Sec at least	isting course. on 1): tion 2): Other (specify) 400-level) ²	for the add	lition		
ENDORSEMENTS (F	Print n	ame)	E	Date	Sign Initi	als		
Leader, Initiating De Max Egenhofer, Dire	epartm ector, S m Com	ent/Unit(s) SCIS mittee Chair(s) [If applicable]	9/2 101 101	9/15 6/15 6/15	hi? The The The The The The The The The The	5		

1. If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic delivery will be managed. Please consult with the Office of Distance Education for more information.

2. Courses cross-listed below 400-level require the permission of the Graduate School.

Current catalog description (include designator, number, title, prerequisites, credit hours);

SIE 570 - Spatial Cognition and Computing

Study of cognitive aspects for understanding spatial representations and reasoning processes. Cognitive models are studied and related to Artificial Intelligence Systems.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 570 - Spatial Cognition and Computing

Study of cognitive aspects for understanding spatial representations and reasoning processes. Cognitive models are studied and related to Artificial Intelligence Systems.

Prerequisites & Notes Graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT	School of Co	School of Computing and Information Science						
COURSE DESIGNATOR	COURSE NUMBER	571	EFFECTIVE S	EMESTER	Spring 2016			
	Pattern Rec	ogniti	on and Rob	otics				
-	syllabus is required for trning component ¹ to at apply and complete Learning ¹	ete Sec at least	tisting course on 1): Ction 2): Other (speced 400-level) ²	<u>.</u>	ddition			
ENDORSEMENTS (Print na	ame)		Date	Sign Ini	tials			
Leader, Initiating Departme Max Egenhofer, Director, Se College(s) Curriculum Comm	CIS	9/2	29/15	Ar?	a			
Timothy M. Cole Laura Arresani		101	6 15	an	//			
College Dean(s)								
Emily Haddad, Dean, CLAS		10-6	-15	初时	-			
Graduate School	(42)							

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 571 - Pattern Recognition and Robotics

Pattern recognition algorithms classify input data based on statistical information. A mobile robot needs pattern recognition algorithms to make sense of its spatial environment based on sensor input. The course will introduce the mathematical framework of pattern recognition and present practical applications in robotics. The course will also cover supervised neural network learning algorithms.

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 571 - Pattern Recognition and Robotics

Pattern recognition algorithms classify input data based on statistical information. A mobile robot needs pattern recognition algorithms to make sense of its spatial environment based on sensor input. The course will introduce the mathematical framework of pattern recognition and present practical applications in robotics. The course will also cover supervised neural network learning algorithms.

Prerequisites & Notes Graduate standing or instructor permission.

Credits: 3

Reason for course modification:

Promotion of consistency and clarity in the language for prerequisites among the SIE graduate courses.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT	School of	f Computing and Information Science				
COURSE DESIGNATOR		590	EFFECTIVE SEMESTER	Spring 2016		
	Informa	ation Syst	em Internship			
-	e syllabus is required f arning component ¹ to at apply and complete Learning ¹	e Section 1 ete Section ete Sectio	n 2): Other (specify) -level) ²	lition		
ENDORSEMENTS (Print n	ame)	Date	e Sign Initia	ls		
Leader, Initiating Departm Max Egenhofer, Director, S College(s) Curriculum Com Timothy M. Cole Lowa A.Acsoci College Dean(s)	SCIS	7/25	the An?	5		
Emily Haddad, Dean, CLAS Graduate School		10-6-1	5 DAL			

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 590 - Information Systems Internship

Utilization of knowledge gained from the information systems graduate program within a business, non-profit or government organization and acquisition of practical training.

Prerequisites & Notes

Successful completion of nine credits of required courses in the MSIS program.

Credits: 3-6

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 590 - Information Systems Internship

Utilization of knowledge gained from a School of Computing and Information Science graduate program within a business, non-profit or government organization and acquisition of practical training.

Prerequisites & Notes

Successful completion of nine credits of required courses in a graduate program in SCIS. May be repeated for credit.

Credits: 3

Reason for course modification:

Description: Desire to make the course available for students in any SCIS graduate program.

Credits: We only allow the course for three credits. We are open to having a student have more than one internship experience for credit with different companies assuming that the learning experience work plan differs substantially from the previous experience.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/U	f Computing and Information Science					
COURSE DESIGNATOR	COURSE NUMBER	598 EFFECTIVE SEMESTER		Spring 2016		
COURSE TITLE		Selected Stu	idies in S	Spatial En	gineering	
	nplete s nic learn a all that ctronic Le	yllabus is required f ning component ¹ to apply and complete earning ¹	o an exist e Section lete Secti	1): on 2):] Other (spe 0-level) ²	è. cify)	lition
ENDORSEMENTS (P	rint nan	ne)	Da	te	Sign Initia	ls
Leader, Initiating De Max Egenhofer, Dire College(s) Curriculum Trus Dry M. Laura Artes College Dean(s)	ctor, SCI Commi	S	9/29/10/01/01/01/01/01/01/01	15	M. 7. The AA	62
Emily Haddad, Dean Graduate School	, CLAS		10-6	-15	574A	

Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 598 - Selected Studies in Spatial Information Engineering

Topics in surveying, photogrammetry, remote sensing, land information systems and geodesy. Content varies to suit current needs. May be repeated for credit.

 $\frac{1}{2}$

Credits: 1-3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 598 - Selected Studies in Spatial Information Engineering

Topics in any subfield of spatial information science and engineering. Content varies to suit current needs. May be repeated for credit.

Credits: 1-3

Reason for course modification:

Long overdue update of description due to changes in the field.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT School of Co				Computing and Information Science				
COURSE DESIGNATOR	SIE	COURSE NUMBER	699	EFFECTIVE	SEMESTER	Spring 2016		
		Graduat	te Thesis / Research					
	plete ic lea all tha tronic ck all	syllabus is required f rning component ¹ to at apply and complete Learning ¹	o an exi e Sectio lete Sec	isting course in 1): tion 2): Other (spe 400-level) ²	e. cify)	dition		
ENDORSEMENTS (Pri	int na	me)	D	ate	Sign Init	ials		
Leader, Initiating Dep Max Egenhofer, Direc College(s) Curriculum	tor, SC	CIS	9/2	9/15	A	9		
Timothy M. Cole	1		10/	6/15	DA			
College Dean(s) Emily Haddad, Dean, Graduate School	CLAS		10-6	p-15	AAAA			
Current catalog description (include designator, number, title, prerequisites, credit hours):

SIE 699 - Graduate Thesis/Research

Graduate thesis or research conducted under the supervision of student's advisor.

Prerequisites & Notes

A "Responsible Conduct of Research" course approved by the Office of Research and Sponsored Programs and the Graduate School (www.umaine.edu/graduate/responsible-conduct-research) is required before or concurrently with completion of 3rd XXX 699 credit. Permission

Credits: Ar

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SIE 699 - Graduate Thesis/Research

Graduate thesis or research conducted under the supervision of student's advisor.

Prerequisites & Notes: Permission

Credits: Ar

Reason for course modification:

Update due ensuring that research methods courses are taken prior to pursuing thesis credits and we are now using INT 601 rather than listing the more general campus-wide RCR course requirement.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



OCT 2 3 2015 GRADUATE SCHOOL

NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORMANIE

GRADUATE PROGRAM/UNIT School of Marine Sciences				
COURSE DESIGNATOR	SMS COURSE NUME	BER 691 EFFECTIVE SE	MESTER Spring 2016	
COURSE TITLE	Mar	ine Science Semin	ar	
REQUESTED ACT	ON:			
NOTE: A comp	ete syllabus is required	d for all <u>new</u> courses and	I for the addition	
of an <u>electronic</u>	learning component ¹	to an existing course.		
NEW COURSE (check al	ll that apply and comple	ete Section 1):		
New Course with Electr	onic Learning ¹			
Experimental				
MODIFICATION (Check	k all that apply and com)	
Number Change	Credit Change			
Title Change		be at least 400-level) ²		
X Description Change	Addition of Electron	nic Learning Component ¹		
ELIMINATION:				
ENDORSEMENTS (Prin	it name)	Date	Sign Initials	
Leader, Initiating Depa	rtment/Unit(s)		1.1.0	
Rebecca Van Beneden		10 17/2015	KUS	
College(s) Curriculum C		10 /7/2015		
Gayle Zydlewski		10-7-15	ABY	
College Dean(s) Edward Ashworth	eorge KCrin Assoc. Dean	er 10/14/15	Uzikc	
<mark>Graduate School</mark> David Neivandt				

Current catalog description (include designator, number, title, prerequisites, credit hours):

SMS 691 – Marine Science Seminar

Student seminars on their own research or current topics in marine science. Credits: 1

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SMS 691 – Marine Science Seminar

This graduate seminar focuses on aspects of professional development, performance, and conduct currently practiced in the marine sciences. Topics include: professional habits of mind, science communication, scientific ethics, and responsible conduct of research. This course meets the Graduate School requirement for "Responsible Conduct of Research Training Requirement". Credits: 1

Reason for course modification:

The course content has been approved by the Graduate School as meeting the requirement for RCR training.

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT School of			of Computing and Information Science				
COURSE DESIGNATOR	SIE		565	EFFECTIVE SE	MESTER	Spring 2016	
COURSE TITLE Reasoning With Uncertainity in Spatial Information Systems							
	lete sy c learn Il that ronic Lea k all th	arning ¹ at apply and compl Prerequisite Change Credit Change Cross Listing (must be Addition of Electronic	ete Section	ing course. 1): on 2): Other (specify) 0-level) ² omponent ¹		course	
Leader, Initiating Depa Max Egenhofer, Directo College(s) Curriculum C Timothy M. Cole College Dean(s) Emily Haddad, Dean, C Graduate School	or, SCIS	5	<u>9/29</u> 10/0 10/0 10/0	15	Ang. The XA	5	

1. If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic delivery will be managed. Please consult with the Office of Distance Education for more information.

2. Courses cross-listed below 400-level require the permission of the Graduate School.

Current catalog description (include designator, number, title, prerequisites, credit hours):

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

Reason for course modification:

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

PLACE IN HIBERNATION. COURSE HAS NOT BEEN TAUGHT IN SEVERAL YEARS BUT MAY BE TAUGHT AGAIN DEPENDING ON FUTURE COURSE LOADS AND STUDENT NEEDS.

SIE 565 - Reasoning With Uncertainty in Spatial Information Systems

Information systems and artificial intelligence approaches to uncertainty handling in spatial information systems. Typology of uncertainty: imprecision, inaccuracy and inconsistency. Representing and reasoning with spatial uncertainty in information systems. Logics of uncertainty, probabilistic and Bayesian approaches, Dempster-Shafer theory of evidence. Spatial vagueness, Handling conflicting information.

Prerequisites & Notes \$1E 451 or SIE 550, graduate standing or instructor permission.

Credits: 3

Please return the completed form with appropriate signatures and documentation to the Graduate School. 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT Food Science and Human Nut			Human Nutri	ition		
COURSE DESIGNATOR	FSN	COURSE NUMBER	506 EFFECT	TIVE SEMESTER	Summer 2016	
COURSE TITLE		Nutritional Assessment				
REQUESTED ACTIO	N:					
NOTE: A complete	e syllat	ous is required for	all <u>new</u> cours	es and for the a	ddition	
of an <u>electronic le</u>	arning	component ¹ to a	n existing cou	irse.		
NEW COURSE (check all th	nat app	bly and complete S	ection 1):			
New Course with Electronic	: Learnii	ng¹				
MODIFICATION (Check al Designator Change Number Change Title Change Description Change	Pre	apply and complete erequisite Change edit Change oss Listing (must be at dition of Electronic Lea	Other (
ELIMINATION:						
ENDORSEMENTS (Print n	ame)		Date	Sign Ini	tials	
Leader, Initiating Departme M. Susan Erich/SFA	ent/Un		6-22-15	ms	r	
College(s) Curriculum Com	mittee	Chair(s) [If applicable]				
College Dean(s) ENAShwortt			1/4/15	ENA		
Graduate School						

SECTION 1 (FOR NEW COURSE PROPOSALS):

	onal Assessment.	r, number, title, prerequisites, credi	t hours):	••••• •••••
		itritional status of individua	ls or groups of peop	le bv
dietary assessme	ent and nutrition-rel	ated health indicators.		,
Prerequisites: FS	N 410 and FSN 412, o	r permission.		
Credits: 3				
Components (type of co nultiple non-graded co		ords for MaineStreet) – <i>Multiple sel</i>	ections are possible for cou	rses with
Applied Music	Clinical	Field Experience/Internship	Research	Studio
Laboratory	X Lecture/Seminar	Recitation	🔲 Independent Study	Thesis
Text(s) planned for use	2;			
Krause's Food and th	ne Nutrition Care Proces	s 13th ed.		
within the second second				
Course Instructor (incl	ude name, position, teachi	ng load):		
Mona Therrien, Lect	urer,			
Reason for new course	199-19 -19-19-19-19-19-19-19-19-19-19-19-19-19-			
		program. Offering this cou be in the field doing their in		
		ment or institutional facilities, supp graduate teaching assistants), or libi		
●No. The departmen	t will not request additiona	al resources for this course.		
⊖Yes. Please list addl	tional resources required a	ind note how they will be funded or	supported.	
ž.				
	nts/programs are affected (concerns expressed? Pleas	e.g. course overlap, prerequisites)? e explain.	Have affected department	s/programs
There are no othe	er departments or p	rograms affected.		
		ng this course result in overload sala anyone else as a result of rearrangi		h the college

This course will be offered summer even years and will result in overload salary payments through CED.



RECEIVED NOV 1 0 2015 GRADUATE SCHOOL

GRADUATE PROGRAM/UNIT			hool of Food and Agriculture			
COURSE DESIGNATOR SFA COURSE NU			ER 551 EFFECTIVE SEMESTER		Spring 2016	
COURSE TITLE	tious	diseases and fo	ood safety- f	rom plant	s to humans	
REQUESTED ACT	ION:					
NOTE: A comp	l <mark>ete</mark> sylla	bus is required for	all <u>new</u> courses	and for the a	ddition	
of an <u>electronic</u>	learning	<u>g component ¹ to a</u>	n existing cours	e.		
NEW COURSE (check a	ll that ap	ply and complete S	ection 1):			
🗙 New Course						
New Course with Electr	onic Learn	ing ¹				
Experimental						
MODIFICATION (Chec	< all that	apply and complete	e Section 2):			
Designator Change		rerequisite Change	🗌 Other (spe	cify)		
🔲 Number Change	🗌 Ci	redit Change				
Title Change	 a	ross Listing (must be at	least 400-level) ²			
Description Change		ddition of Electronic Lea		L		
ELIMINATION:						
Course Elimination						
ENDORSEMENTS (Prin	t name)		Date	Sign In	itials	
Leader, Initiating Depa	tment/U	nit(s)				
M. Susan Erich			10-3-15	m.	12	
College(s) Curriculum C	ommittee	e Chair(s) [if applicable]				
College Dean(s)						
ENASHWONT	t		11/4/15	ENC	1	
Graduate School						

SECTION 1 (FOR NEW COURSE PROPOSALS):

Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

SFA 551 Infectious diseases and food safety – from plants to humans

X Lecture/Seminar

Examines current concepts and trends in infectious disease biology, with a focus on enterobacterial human pathogens, plant pathogens and their impacts on one another. The nature of disease, the causal agents, mechanisms of transmission and epidemic, and strategies for management will be compared among humans and plants.

Prerequisites: One of the courses or equivalent: AVS 437, BMB 300, FSN 238, PSE457/557, PSE 469, or permission.

Components (type of course/used by Student Records for MaineStreet) – Multiple selections are possible for courses with multiple non-graded components:

Applied Music Clinical

Field Experience/Internship

Independent Study

Studio

Thesis

Research

Text(s) planned for use:

Laboratory

none

Course Instructor (include name, position, teaching load):

Jianjun (Jay) Hao, Assistant Professor, 30% teaching, also offers PSE 457/557 Plant Pathology and Advanced Plant Pathology

Reason for new course:

We wish to offer more courses, such as this one, that will be of broad interest to graduate students across the School of Food and Agriculture, including those in the areas of plant science, agriculture, food science, human nutrition, and animal science. SFA 551 might also be taken by graduate students in SBE and BMS. This topic is timely and important. The class will be synthetic in subject matter and appealing to graduate students in many disciplines.

Does the course addition require additional department or institutional facilities, support and/or resources, e.g. new lab facilities, computer support and services, staffing (including graduate teaching assistants), or library subscriptions and resources?

•No. The department will not request additional resources for this course.

○Yes. Please list additional resources required and note how they will be funded or supported.

What other departments/programs are affected (e.g. course overlap, prerequisites)? Have affected departments/programs been consulted? Any concerns expressed? Please explain.

There are few courses with similar subject matter. We do not anticipate any concerns. This course is potentially beneficial to graduate students in other units and we expect to advertise it to them.

How often will this course be offered? Will offering this course result in overload salary payments, either through the college or CED, either to the instructor of this course or to anyone else as a result of rearranging teaching assignments?

It will be offered in alternate spring semesters (even years). There will be no overload payments. This is part of Dr. Hao's regular load.



NEW COURSE PROPOSAL/MODIFICATION/ELIMINATION FORM for Graduate Courses

GRADUATE PRO	OGRAM/UNIT	Special Education			
COURSE DESIGNA	ATOR SED	COURSE NUMBER	585	EFF. SEMESTER	Spr16
COURSE TITLE	Communication	for Students with Au	tism Spec	trum Disorders	

REQUESTED ACTION:

NOTE: A complete syllabus is required for all <u>new</u> courses and for the addition of an <u>electronic learning component</u>¹ to an existing course.

NEW COURSE (check all that apply and complete Section 1):

_X_New Course

__ New Course with Electronic Learning Component¹

__Experimental

MODIFICATION (Check all that apply and complete Section 2):

Credit Change
Cross Listing (must be at least 400-level) ²
$\underline{\times}$ Addition of Electronic Learning Component ¹
Other (specify)

ELIMINATION:

_Course Elimination

ENDORSEMENTS (Print name)	Date	Sign Initials
Leader, Initiating Department/Unit(s)	10-15-15	Ja
College(s) Curriculum Committee Chai	ir(s) [if applicable]	
Unber Rous Find	10-30-15 [Deborch L'ROOKS. Ellis
College Dean(s)	10/20/15	Suran Grandner
Dean and Associate Provost for Gradu	ate Studies	

1. If a course involves significant electronic access for the primary delivery of its content (more than 50%), the course proposal should specify faculty training/experience in use of technology and how the electronic delivery will be managed. Please consult with the Office of Distance Education for more information.

^{2.} Courses cross-listed below 400-level require the permission of the Dean and Associate Provost for Graduate Education.

SECTION 1 (FOR NEW COURSE PROPOSALS): Proposed Catalog Description (include designator, number, title, prerequisites, credit hours):

= 100

This course example development, the augmentative co socialization. St communication a to collaborate wi combination of o knowledge of co	nines communication e difference in autism mmunication support udents develop the an abilities to identify sup th teachers, family me bservation, practice s mmunication and sup	s with Autism Spectrum Disc , including an overview of typ speech and language devel s, visual supports, and the in wareness and the necessary oports that match the individu embers and related professions sessions, lecture and project- oports across the autism spec	pical communication ar opment, assessments iterrelationships betweet skills to conduct inform ial's learning style. Stu- onals to increase comm based learning, studer ctrum. 3 credits.	of communication, en communication nal observations o idents learn strate hunication. Using nts apply their
Components (type of cou on-graded components:		rds for MaineStreet) – Multiple sele		rses with multiple
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ext(s) planned for use:				
Pearson. ISBN: 9 • Prelock, F	780132658096	im disorders: From theory to 012). Treatment of autism s 70533		
ourse Instructor (includ	le name, position, teaching	; load):		
Suzanne Bisho Deborah L. Roc	p, Communication Sc oks-Ellis, Ph.D., Speci	iences Disorder adjunct facu ial Education faculty, 2/2	ilty	
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Current catalog description (include designator, number, title, prerequisites, credit hours):

ERS 560 - Marine Geology

Topics include theories of the origin of the earth as a planet and the development of continents and ocean basins, morphology and structure of the sea floor, interpretation of geological and geophysical evidence relevant to the origin and evolution of major tectonic features of oceans. Students may not receive credit for both ERS 460 and ERS 560.

Prerequisites: Prerequisite: ERS 100, 101, 102, or 103

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

ERS 560 - Marine Geology

Topics include theories of the origin of the earth as a planet and the development of continents and ocean basins, morphology and structure of the sea floor, interpretation of geological and geophysical evidence relevant to the origin and evolution of major tectonic features of oceans. Students may not receive credit for both ERS 460 and ERS 560.

Prerequisites: Prerequisite: ERS 100, 101, 102, 103, or ERS/SMS 108

Reason for course modification:

ERS 108 was omitted from the prerequisites list by error. All introductory courses, including ERS/SMS 108 (Beaches and Coasts) provide adequate background information for students entering the course. Without ERS/SMS 108 listed as a prerequisite course, School of Marine Sciences students who wish to take ERS 560 are currently required to seek professor permission, which is always granted

SECTION 3 FOR COURSE ELIMINATIONS:

Reason for Elimination

Please return the completed form with appropriate signatures and documentation to the Graduate School, 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775



GRADUATE PROGRAM/UNIT Master of Science in Teaching (MST)				
COURSE DESIGNATOR	SMT COURSE NUMBER	507 EFFECTIVE SEM	ESTER Spring 2016	
COURSE TITLE Resear	ch-related Curriculum D	evelopment in Scie	nce and Mathematics	
of an <u>electronic</u>	te syllabus is required for <u>learning component¹</u> to a that apply and complete S	n existing course.	or the addition	
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Designator Change Number Change Number Change Description Change ELIMINATION: Course Elimination	all that apply and complet: Prerequisite Change Credit Change Cross Listing (must be at Addition of Electronic Le	Other (specify) .	, , ,8	
ENDORSEMENTS (Print	: name)	Date	Sign Initials	
Leader, Initiating Depart Sycson R. M College(s) Curriculum &	tmenţ/Unit(s) 1 CKary Milline unalr(s) (if spolicabile) 1	10/23/15	SRM MA	
College Dean(s) ENAShwart	ч	11/6/15	ENG	

Current catalog description (include designator, number, title, prerequisites, credit hours):

SMT 507 – Research-related Curriculum Development in Science and Mathematics Seminar for pre-service or in-service teachers who are currently participating in a research internship or who wish to use discipline-based education research to guide curricular innovation in their classrooms. Investigation and development of related research-based secondary science and mathematics curriculum and pedagogy.

Prerequisites, Corequisites & Notes

Permission. To be taken in conjunction with SMT 598, Sec.0001 (Jackson Laboratory Student Internship & Teaching Sabbatical)

Credits: 3

Proposed catalog description (include designator, number, title, prerequisites, credit hours):

SMT 507- Integrated Approaches In Biology Education

Applications of biology education research to the teaching of biology concepts and problem solving. Students will explore common student conceptual difficulties in biology, methods of assessment, and research-based instructional strategies.

Prerequisites, Corequisites & Notes Permission.

Reason for course modification:

This course was taken in conjunction with SMT 598, Sec. 001 (Jackson Laboratory Student Internship & Teaching Sabbatical). The Jackson Laboratory Student Internship & Teaching Sabbatical program has now ended and this new course will be taught on the UMaine campus. The MST program currently offers courses in teaching physics, earth science, and mathematics. Having a course that focuses on biology education research will allow broader science training for future teachers. Dr Michelle Smith, assistant professor in the School of Biology and Ecology, will teach this course. Dr. Smith advises between 1-3 MST students every year and her research area is in biology education.

Course outline

Section 1: What leaning objectives are important for biology students?

Explore national standards: Next Generation Science Standards, Vision and Change etc.

Write learning goals

Research, reflect, and write about common student conceptual difficulties

Section 2: Assessment

Explore national assessment questions

Write assessment questions and collect data

Acquire expert feedback on assessment questions, what did you learn from experts?

What are other effective ways to assess students?

Section 3: Classroom activities

How can you engage students in the biology classroom?

What would a one-week unit look like for a course you would like to teach?

What does it mean to teach in an inquiry-based manner?

Please return the completed form with appropriate signatures and documentation to the Graduate School, 5775 Stodder Hall, Room 42 Orono, Maine 04469-5775